ORDER NO. MB9102009C2

Service Manual

Compact Disc Player

SL-PG200A

COMPACT disc DIGITAL AUDIO

DIGITAL

MASH* multi-stage noise shaping

Color

(K)...Black Type
(S)...Silver Type

Area

Country Code	Area	Color
(E)	Continental Europe.	(K) (S)
(EB)	Great Britain.	(K) (S)
(EG)	F.R. Germany & Italy.	(K) (S)

SPECIFICATIONS

■ Audio

No. of channels	2 (left and right, stereo)
Frequency response	2–20,000 Hz±0.5 dB
Output voltage	2 V (at 0 dB)
Dynamic range	96 dB
S/N ratio	100 dB
Total harmonic distortion	0.005% (1 kHz, 0 dB)
Harmonic distortion	0.003% (1 kHz, 0 dB)
Wow and flutter	Below measurable limit
DA converter	MASH (4 DAC)
Output impedance	Approx. 600Ω
Load impedance	More than 10 kΩ
Headphone output level	15 mW max. 32Ω (adjustable)

■ Pickup

Wavelength	780 nm

■ General

Power supply	
For Great Britain	AC 50/60 Hz, 230 V–240 V
For others	AC 50/60 Hz, 230 V
Power consumption	10 W
Dimensions (W×H×D)	430×103×283 mm
Weight	3.6 kg

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

- Technics (or Panasonic) developed the world's first MASH type DAC and ADC. MASH technology was invented by NTT (LSI Labs).
- ※ MASH is a trademark of NTT.

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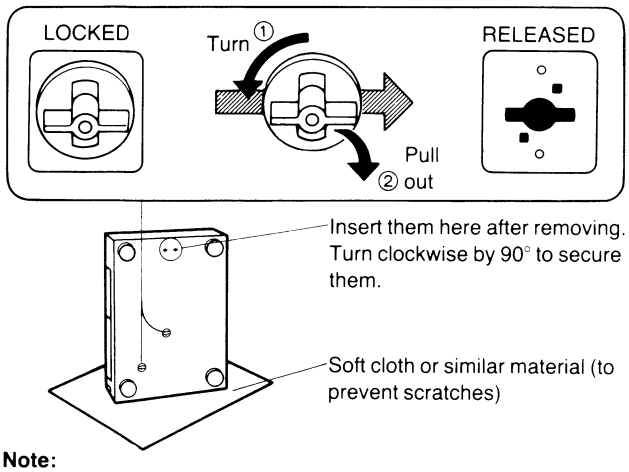
* TECHNICAL INFORMATION
* This technical information is located on pp 49~56 of the SL-PJ46A Service Manual (Order No. AD8902036C2). Therefore, refer to that Service Manual.

Technics

■ PLACEMENT

Before placement

Two transport security devices are secured to prevent the optical pickup from damage during transport.
Be sure to release them before use.



Note:
When transporting the unit, be sure to remove the compact disc from inside the unit. And replace the transport security devices again following the reverse order not to damage the optical pickup.

Notes of placement

■ **This unit is a precision instrument. Be sure to place it on a flat surface.**
■ **Avoid places such as the following:**
- Near any equipment or device that generates strong magnetism.
- On any heat-generating equipment or device, or in any place where the temperature is high (35°C or higher).
- Extremely cold places (5°C or below).
- Near a tuner or TV (It may cause noise in the broadcast, or disturbance of the TV picture.)

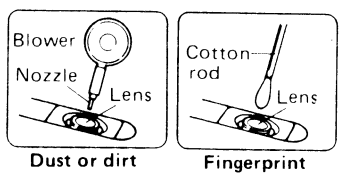
■ **When carrying or storing the unit, handle it with care so it is not subjected to any strong bumps.**
Always remove the disc before storing the unit for any period of time.
■ **To avoid problems due to vibration.**
- Do not place a book or similar object under this unit.
- Do not route the connection cables (of this or other units) across the operation panel, across the top, or under the unit.

■ CLEANING OF LENS

If the lens is stained causing sound skip or operation failure, open the top cover by pressing the open button, and clean the lens.

• To remove dust or dirt

Blow the lens with the blower provided in the cleaning kit to remove dust or dirt.

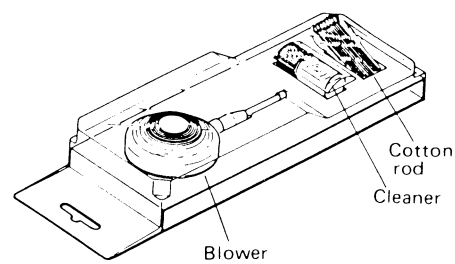


• To remove fingerprint

If the blower is not enough, moisten the cotton rod with the lens cleaner solution and wipe the lens with it from center of the lens to outside.

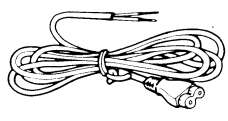
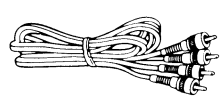
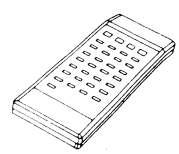
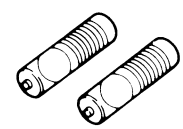
Cautions:
- Do not directly apply the cleaner solution to the lens. Do not apply too much solution to the cotton rod or otherwise the solution will flow into the player.
- Wipe the lens carefully. Do not give too much stress to the lens or otherwise it may scratch the lens or cause optical pickup trouble.
- If the solution should be too much applied, wipe the lens with a dry cotton rod.

Lens cleaning kit (Part No. : SZZP1038C)



■ ACCESSORIES

- AC power supply cord (SJA187 (E, EG) / SJA193 (EB)) 1
- Stereo connection cable (SJP2249-3) 1
- Remote control transmitter (Black: EUR64798) / (Silver: EUR64799) 1
- Batteries (UM-4NE/2S) 2

■ PRECAUTION OF LASER DIODE

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick up lens.
Wave length: 780nM
Maximum output radiation power from pick up: 100μW/VDE

Laser radiation from the pick up lens is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

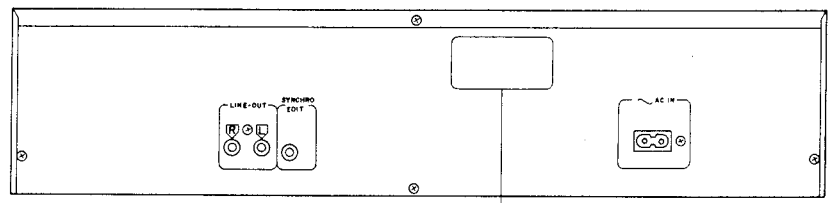
ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge: 780 nM
Maximale Strahlungsleistung der Lasereinheit: 100 μW/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

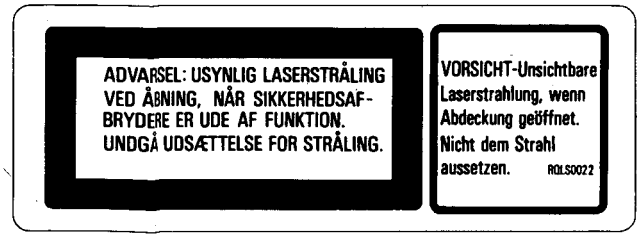
ADVARSEL: I dette a apparat anvendes laser.

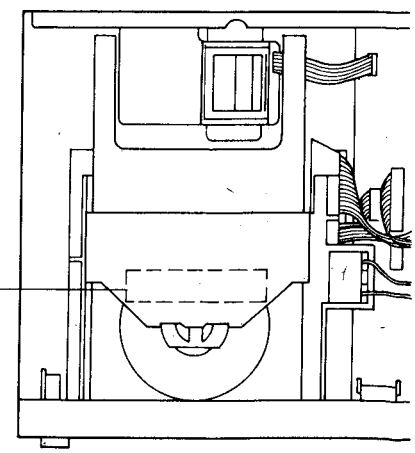


SQWD7

Obs:
Apparaten innehåller laser
Komponent av höger laserklass
än klass 1.

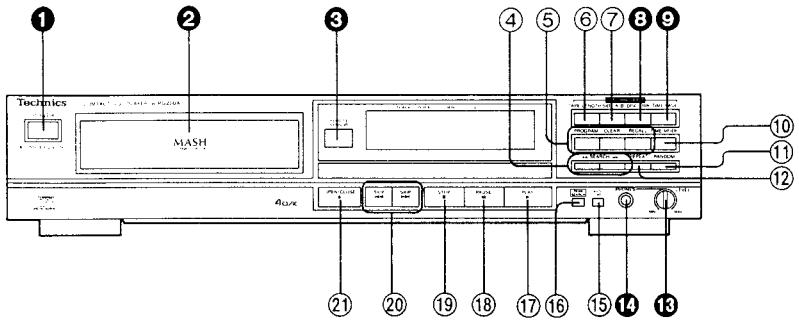
RQLS0022


ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAF-BRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT-Unsichtbare Laserstrahlung, wenn Abdeckung geöffnet. Nicht dem Strahl aussetzen.
RQLS0022



■ LOCATION OF CONTROLS

The functions indicated by the black numbers (with white background, ④ etc.) can also be activated using the remote control transmitter.



Control section

❶ Power "STANDBY ⏻/ON" switch (POWER ▮ STANDBY ⏻ ▬ ON)
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the STANDBY ⏻ position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

❷ Disc holder

❸ Remote control signal sensor (REMOTE SENSOR)

④ Search buttons (◀◀ SEARCH ▶▶)
These buttons can be used to move rapidly forward or backward on the disc during play. The search speed is slow when the button is pressed at first and becomes faster if the button is pressed and held continuously.

⑤ Buttons for program function
- **Program button (PROGRAM)**
  Pressing this button initiates the program play mode. You can then enter specific tracks using the numeric buttons.
- **Clear button (CLEAR)**
  Each pressing this button makes one track cleared from the programmed sequence.
- **Recall button (RECALL)**
  This button can be used to display the contents of the programmed track sequence for confirmation.

⑥ Edit tape length button (TAPE LENGTH)
When compact discs are to be recorded to tape, this button can be used to calculate the number of tracks that can be recorded on each side of the tape, depending on the length of the cassette tape used, so that as little tape as possible is wasted.

⑦ Tape-side select button (SIDE A/B)
When recording compact discs to tape, this button can be used to check the number of tracks and amount of tape left over for side A or B.

❽ Disc link button (DISC LINK)
This button can be used for edit recording from several discs.

❾ Time fade button (TIME FADE)
Pressing this button in the pause or stop mode causes the fade-out function to work at the specified time.
Pressing this button in the edit mode causes the fade-out function to work at the end of the tape when the track added exceeds the remaining time of the tape.

⑩ Time mode select button (TIME MODE)

⑪ Random play button (RANDOM)
This button can be used to play the tracks on a disc in a random sequence.

⑫ Repeat button (REPEAT)

⑬ Headphones volume control (LEVEL)

> Avoid listening to music at high volume levels for extended periods of time.

⑭ Headphones jack (PHONES)

⑮ Auto cue button (AUTO CUE)
Pressing this button enables the unit to stop at the beginning of every track and switch to the play standby mode.

⑯ Peak level search button (PEAK SEARCH)
Pressing this button enables the unit to search for the "peak signal" locations in tracks on a disc so as to adjust the suitable recording level on the cassette deck.

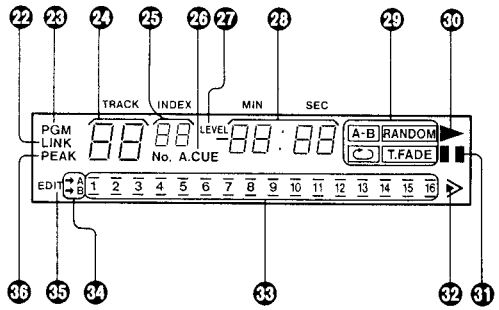
⑰ Play button (▶ PLAY)

⑱ Pause button (❚❚ PAUSE)

⑲ Stop button (■ STOP)
This button can be used to stop disc play, as well as to cancel the various play modes.

⑳ Skip buttons (⏮ SKIP, ⏭ SKIP)
These buttons can be used to specify the number of the desired track and the desired recording time of the tape.

㉑ Disc holder open/close button (⏏ OPEN/CLOSE)



Indicators section

㉒ Disc link indicator (LINK)

㉓ Program play indicator (PGM)

㉔ Track number display (TRACK)

㉕ Index/program number display (INDEX, No.)

㉖ Auto cue indicator (A. CUE)

㉗ Level indicator (LEVEL)
This indicator lights when the output level is attenuated by the remote control.

㉘ Time display (MIN, SEC)

㉙ Operation indicators
The following indicators light during their respective operations.

A-B ⟲ :	Peak level search A-B repeat play (remote control operation)
⟲ :	Repeat play
RAMDOM :	Random play
T.FADE :	Time fade (fade-out)

㉚ Play indicator (▶)

㉛ Pause indicator (❚❚)

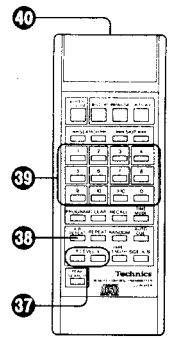
㉜ "Over" mark (▶▷)
This indicator lights if the total number of tracks on the disc is 17 or more.

㉝ Track number indicator (1–16)

㉞ Tape side indicator (➡A, ➡B)

㉟ Compact disc edit indicator (EDIT)

㊱ Peak level search indicator (PEAK)



Unnumbered buttons on the remote control transmitter function identically to their corresponding parts on the unit.

Remote control transmitter

㊲ Level buttons (▼ LEVEL ▲)
These buttons can be used to adjust output level (from 0 dB to −12 dB).

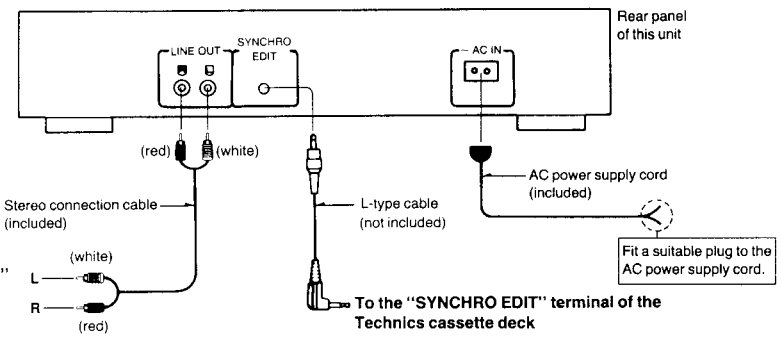
㊳ A–B repeat button (A–B REPEAT)
This button can be used to play the portion of a disc between two points (A and B) chosen by you.

㊴ Numeric buttons (>10, 0, 1~10)

㊵ Remote control signal transmission window

■ CONNECTIONS

Turn power off on all components before making connections.

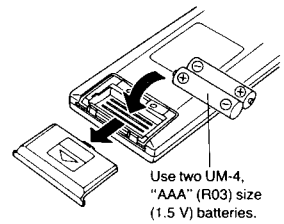


Note:
The configuration of the AC outlet and AC power supply cord differs according to area.

■ REMOTE CONTROL TRANSMITTER

Insertion of remote control transmitter batteries

Battery life is about 1 year.



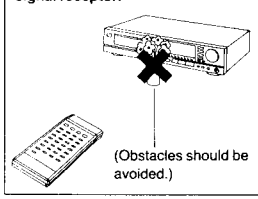
■ Notes concerning use of batteries

- Do not use chargeable batteries (Ni-Cd type).
- Be sure the batteries are inserted so that the positive (+) and negative (−) polarities are correct. Batteries installed with incorrect polarities may leak and damage the remote control transmitter.
- Never subject the batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control transmitter is not to be used for a long time, remove the batteries and store them in a cool dark place.
- Remove old, weak or worn-out batteries promptly and dispose of them.
- Never mix old and new batteries, nor batteries of different types (carbon or alkaline).

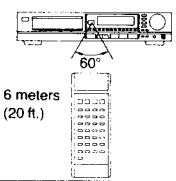
Remote control transmitter operation notes

Note that operation may not be correct if direct sunlight or other strong light strikes the remote control signal receptor part of this unit. If there is a problem, place the unit away from the direct sunlight or other strong light source.

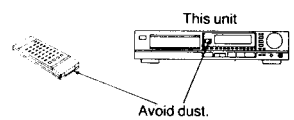
Face it toward the remote control signal receptor.



Use the remote control transmitter within 6 meters.



Be sure the transmitter part of the remote control transmitter and the receptor part of this unit are free from dust. Excessive dust might prevent reception.



Notes:

- The control panel of the remote control transmitter may be covered by a clear plastic protective sheet. This sheet may be removed if desired.
- If this unit is installed in a rack with glass doors, the glass door's thickness or color might make it necessary to use the remote control transmitter a shorter distance from the unit.
- Do not use a remote control transmitter for a TV set, VCR or other component at the same time as this unit's remote control transmitter is being used, because this could result in an operation error.

■ DISASSEMBLY INSTRUCTIONS

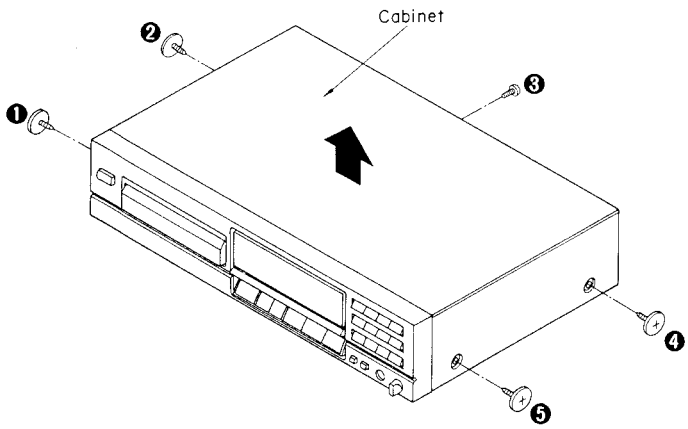
Warning: This product uses a laser diode. Refer to caution statements on page 3.

ACHTUNG:
- Die lasereinheit nicht zerlegen.
- Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

∗This CD player is equipped with FPC boards, so handle them with care during disassembly and reassembly.

Ref. No. 1	Removal of the cabinet

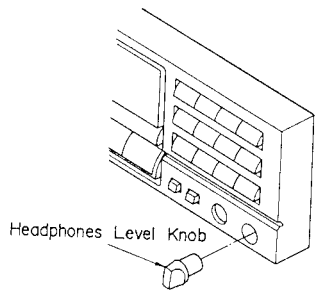
Procedure 1



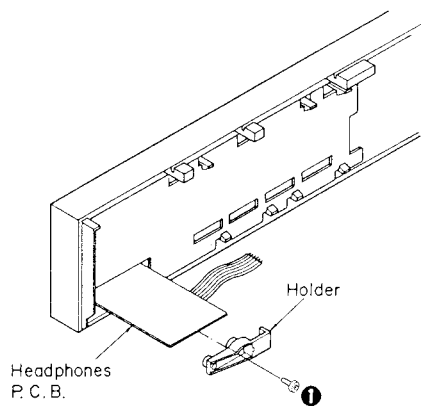
- Remove the 5 screws (❶~❺).

Ref. No. 3	Removal of the headphones P.C.B.

Procedure 1→2→3



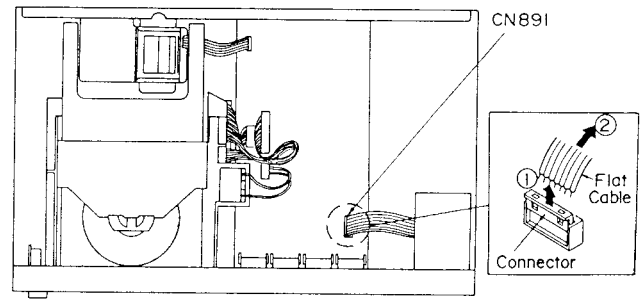
1. Pull out the headphones level knob.

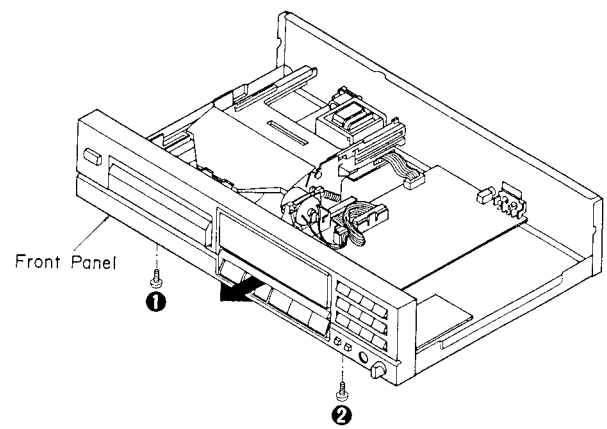


2. Remove the 1 screw (❶).
3. Remove the holder.

Ref. No. 2	Removal of the front panel

Procedure 1→2

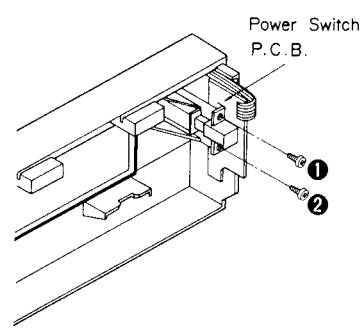




1. Remove the 1 flat cable (CN891).
2. Remove the 2 screws (❶, ❷).
3. Remove the front panel in the direction of the arrow.

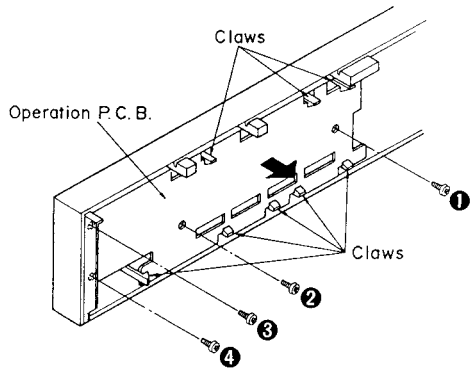
Ref. No. 4	Removal of the power switch P.C.B.

Procedure 1→2→4



- Remove the 2 screws (❶, ❷).

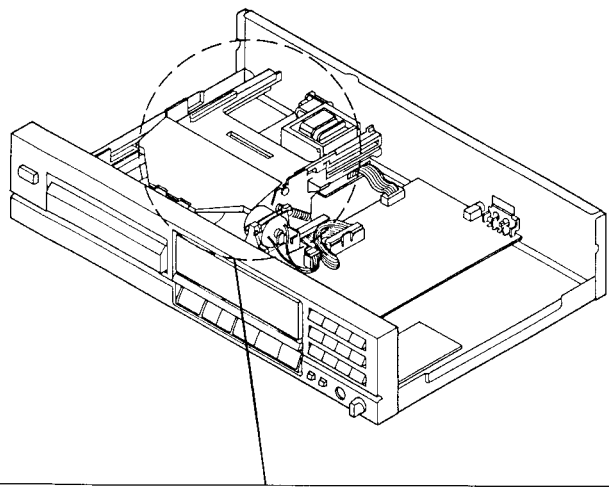
Ref. No. 5	Removal of the operation P.C.B.
Procedure 1→2→3→5	

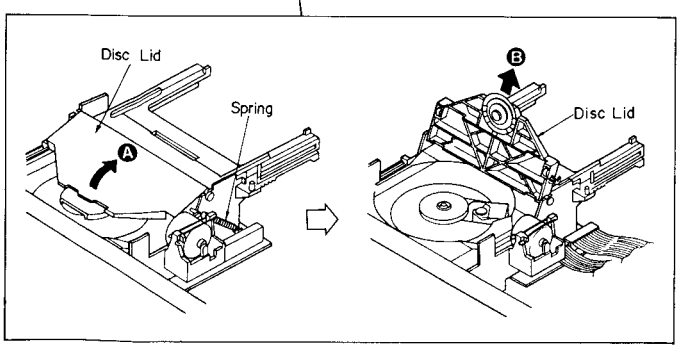


1. Remove the 4 screws (❶~❹).
2. Release the 8 claws.
3. Remove the operation P.C.B. in the direction of the arrow.

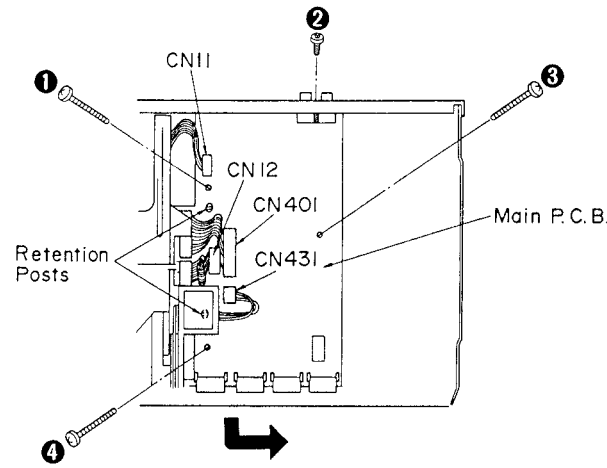
Ref. No. 7	Removal of the disc lid
Procedure 1→7	

1. Remove the spring.
2. Move the disc lid in the direction of the arrow (Ⓐ) and pull out this in the direction of the arrow (Ⓑ).





Ref. No. 6	Removal of the main P.C.B.
Procedure 1→2→3 →5→6	

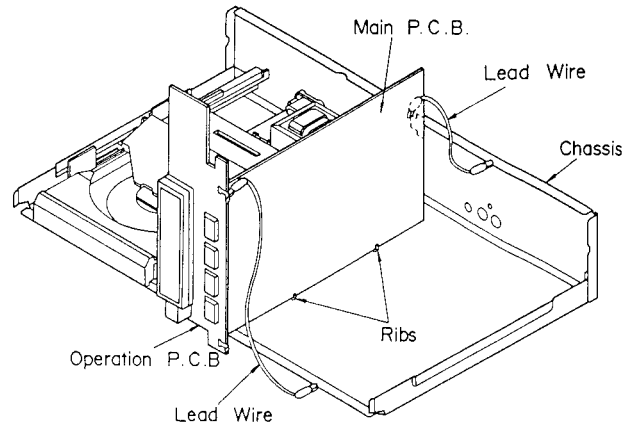


1. Remove the 4 screws (❶~❹).
2. Remove the 3 connectors (CN12, CN401, CN431).
3. Remove the 1 flat cable (CN11).
4. Lift the main P.C.B. off the retention posts on the chassis.
5. Remove the main P.C.B. in the direction of the arrow.

How to check the main P.C.B.

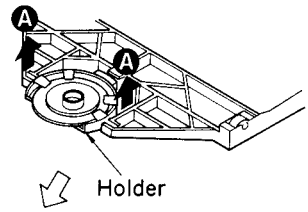
When checking the soldered surface of the main P.C.B. and replacing the parts, do as shown below.

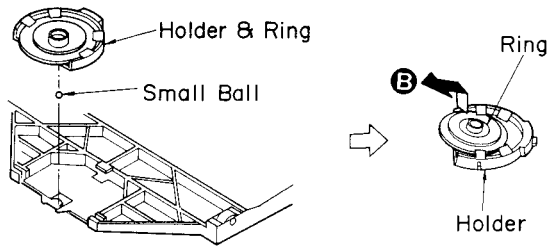
1. Don't remove the connectors (CN12, CN401, CN431) and flat cable (CN11).
2. Connect the main P.C.B. ground terminal (LINE OUT terminal) to the chassis with a lead wire.
3. Connect the operation P.C.B. ground terminal to the chassis with a lead wire.



Ref. No. 8	Removal of the holder and ring

Procedure 1→7→8



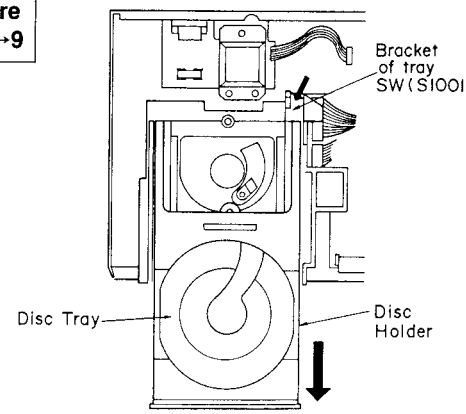


1. Pull out the holder in the direction of the arrow (Ⓐ).
2. Remove the ring in the direction of the arrow (Ⓑ).

Caution: Be sure to handle the small ball carefully.

Ref. No. 9	Removal of the disc holder

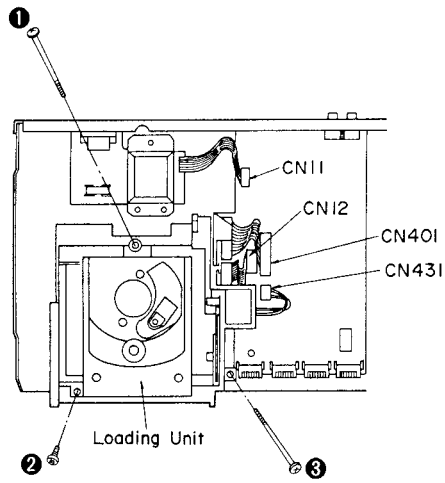
Procedure 1→2→7→9



1. Pull the disc holder slowly in the direction of the arrow until the disc tray comes up.
2. Pull the disc holder until it stops.
3. Push the bracket of tray SW (S1001) in the direction of the arrow.
4. Pull out the disc holder further to remove it.

Ref. No. 10	Removal of the loading unit

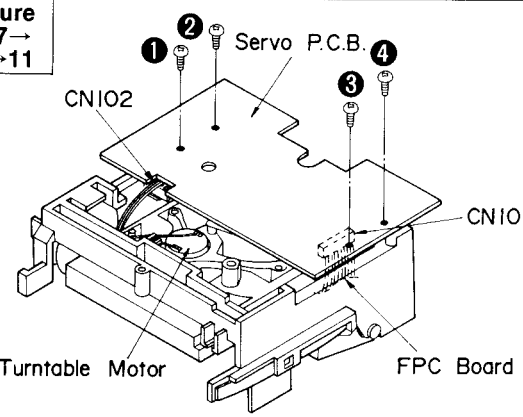
Procedure 1→2→7→9→10



1. Remove the 3 screws (❶~❸).
2. Remove the 3 connectors (CN12, CN401, CN431).

Ref. No. 11	Removal of the servo P.C.B.

Procedure 1→2→7→9→10→11

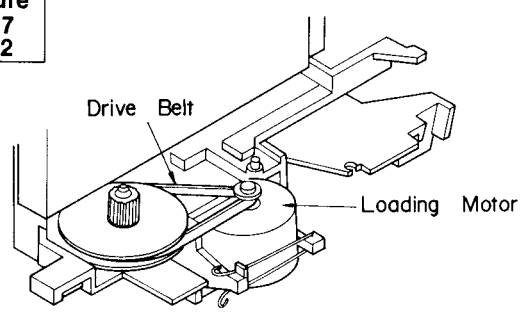


1. Remove the 4 screws (❶~❹).
2. Remove the FPC board (CN101) from the optical pickup.
3. Remove the 1 connector (CN102) of the turntable motor.

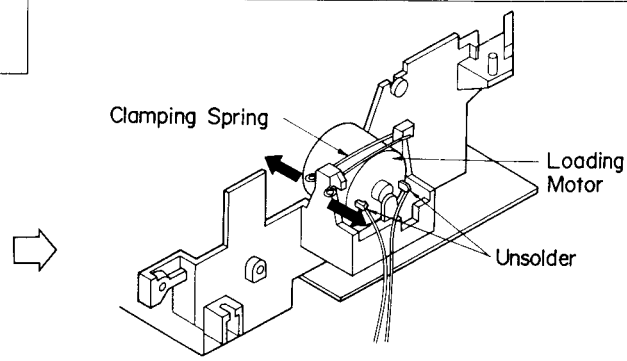
Caution: To prevent the breakdown of the laser diode, antistatic shorting pin is inserted into the FPC board.

Ref. No. 12	Removal of the loading motor

Procedure 1→2→7→9→12

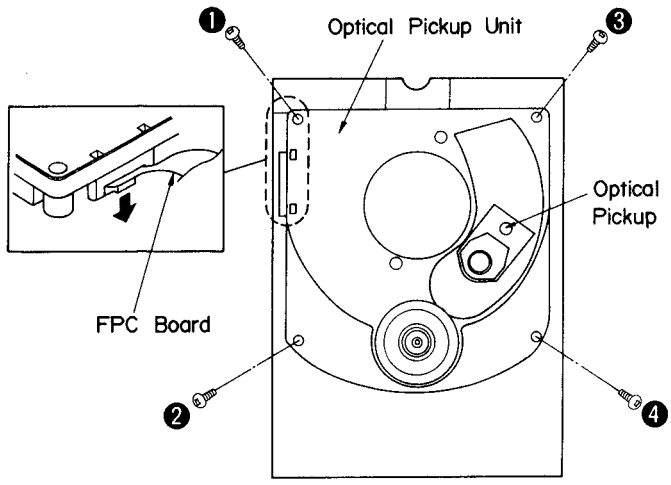


1. Remove the drive belt.

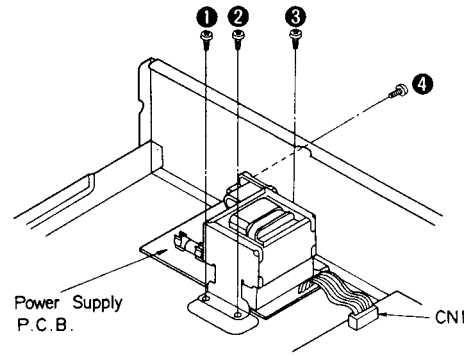


2. Release the clamping spring.
3. Unsolder the 2 terminals of the lead wire of the loading motor.

Ref. No. 13	Removal of the optical pickup unit	Ref. No. 14	Removal of the power supply P.C.B.
Procedure 1→2→7→9→ 10→11→13		Procedure 1→14	



1. Remove the 4 screws (❶~❹).
2. Remove the FPC board from the optical pickup.



1. Remove the 4 screws (❶~❹).
2. Remove the 1 connector (CN11).

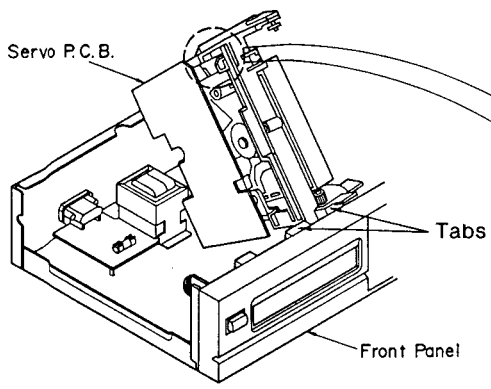
■ CHECKING OF THE SERVO P.C.B.

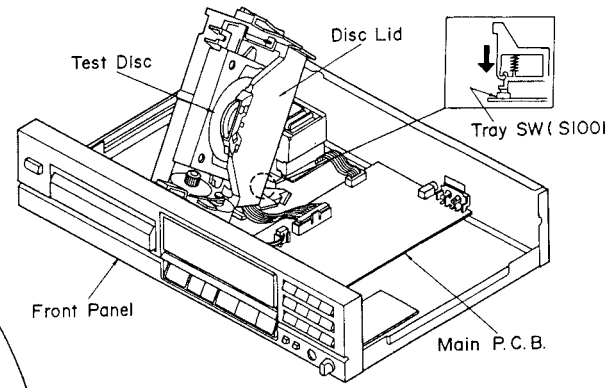
1. Remove the cabinet (see Ref. No. 1 of the disassembly instructions).
2. Remove the disc lid and disc holder (see Ref. No. 7 and No. 9 of the same).
3. Remove the loading unit (see Ref. No. 10 of the same).
4. When checking the soldered surface of the servo P.C.B. and replacing the parts, do as shown below.

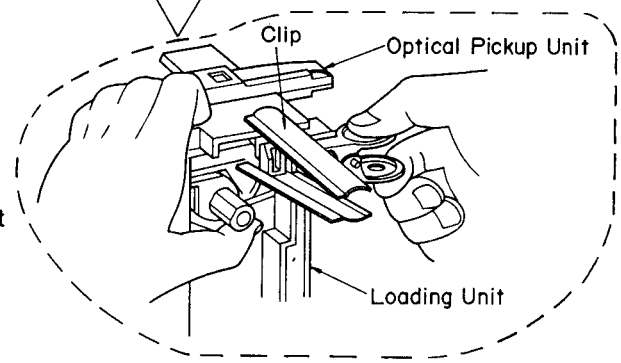
(To play a disc)

1. Place the test disc.
2. Reinstall the disc lid to the loading unit.
3. Turn "ON" the power switch of the player.
4. Push the bracket of tray SW (S1001) in the direction of the arrow and release it.

Note: If the test disc fails to rotate, press the tray switch again.





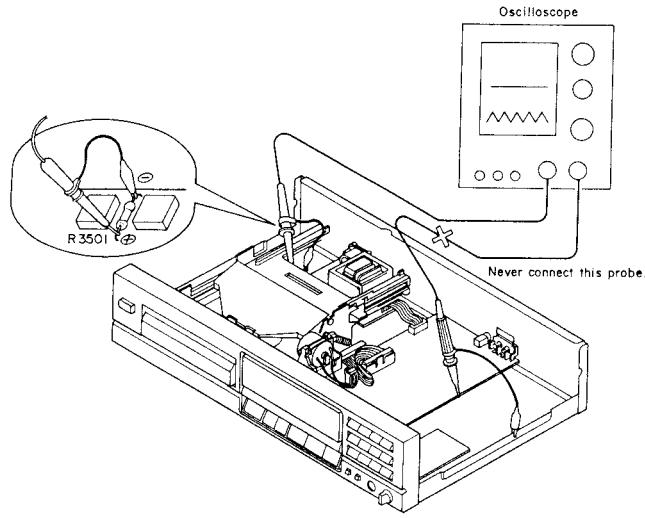


Note: Put on the loading unit on the tabs of the front panel. (Fixed loading unit)
Hold the loading unit and the optical pickup unit with a clip. (Fixed optical pickup unit)
Secure the optical pickup assembly with a clip. (Otherwise the clamper will interfere with the disc, restricting turntable rotation.)

■ MEASUREMENTS AND ADJUSTMENTS

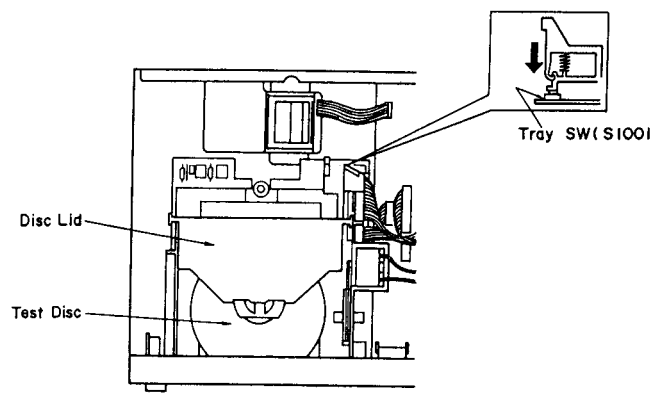
Caution:

1. It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.)
   With the unit turned "on", laser radiation is emitted from the pickup lens.
   Avoid exposure to the laser beam, especially when performing adjustments.
2. During laser power or focus offset adjustment, never connect the other probe to the unit.
   (Otherwise the unit's power supply will sustain damage.)



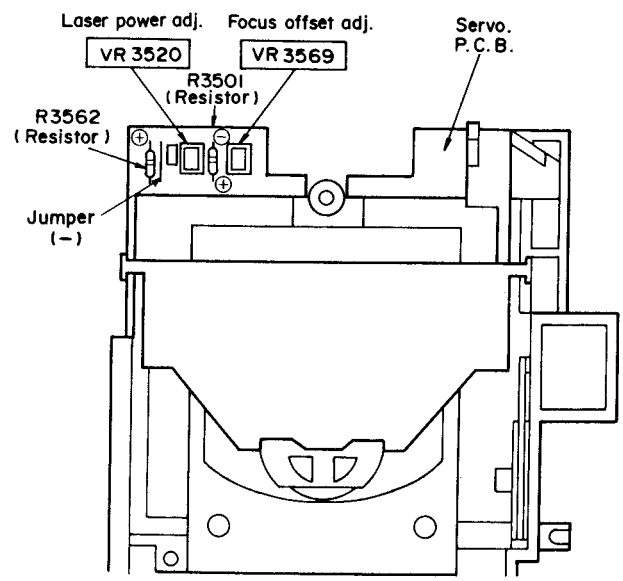
PREPARATION

1. Remove the cabinet (see Ref No. 1 of the disassembly instructions).
2. Remove the disc holder (see Ref No. 9 of the same).
3. Place the test disc on the turntable.
4. Turn "ON" the power switch at the player.
5. Push the bracket of tray SW (S1001) in the direction of the arrow and release it.
   Note: If the test disc fails to rotate, press the tray switch again.



ADJUSTMENT POINTS

• Servo P.C.B.

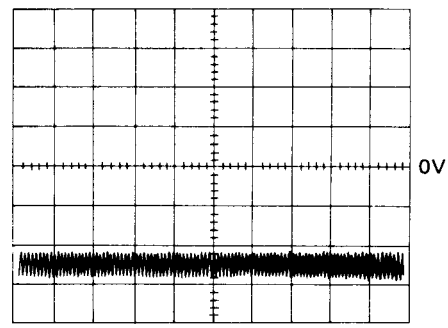


Measuring Instruments

* Playability test disc (SZZP1054C).
* Normal disc.
* Dual-beam oscilloscope with bandwidth of 30MHz or better (with EXT trigger and 1: 1 probe).

(1) LASER POWER ADJUSTMENT

1. Connect the oscilloscope's CH1 probe across (+) and (−) of **R3501** (Resistor) on the servo P.C.B.
2. Switch the player power ON, and play track No. 1 on the test disc (SZZP1054C).
3. Adjust **VR3520** so that the voltage is **−50±2mV**.

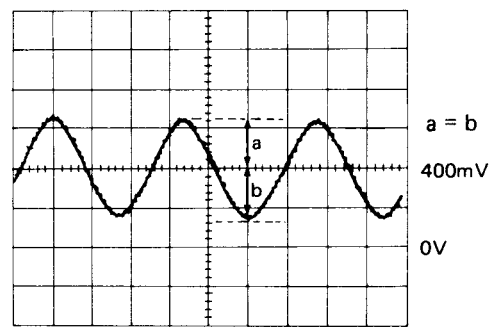


Oscilloscope setting:

VOLT 20mV
SWEEP.....0.2msec.
INPUT.....DC

(2) FOCUS OFFSET ADJUSTMENT

1. Connect the oscilloscope's CH1 probe across **R3562** (Resistor) (+) and **Jumper** (−) on the servo P.C.B.
2. Switch the player power ON, and play track No. 1 on the test disc (SZZP1054C).
3. Adjust **VR3569** until the signal amplitude become in the center of **400mV**.



Oscilloscope setting:

VOLT 200mV
SWEEP.....5msec.
INPUT.....DC

(3) CHECK OF PLAY OPERATION AFTER ADJUSTMENT

* **Checking Skip Search**

1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

* **Checking Manual Search**

1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

* **Playability check by test disc**

1. Play the 0.7mm black dot and the 0.7mm wedge on the defect test disc (SZZP1054C) and verify that no sound skip or noise occurs.

■ TERMINAL FUNCTION OF IC'S

• IC6501 (482220973234/TDA8808T): Photo diode signal processor

Pin No.	Mark	I/O Division	Function
1	GCHF	I	Gain control input of HF amplifier. Current output from HF amplitude detector
2	Vp	I	Positive supply voltage
3	HFout	O	HF amplifier and equalizer voltage output
4	DET	I	HF detector voltage input
5	Sc	I	Starting up capacitor input
6	Si/$\overline{RD}$	I/O	On/off control (start input); ready signal output (starting up procedure successful)
7	Beg	I	Equalizer reference current input
8	Bgc	I	DC and LF gain control reference current input
9	FOC START	I	Focus normalizing circuit starting current
10	PLLH	O	PLL on hold output
11	$\overline{TL}$	O	Track loss output
12	$\overline{DODS}$	I	Drop out detector suppression input
13	Vext	I	Negative supply connection for FE and FElag output stage; also substrate connection
14	LPF	O	Low pass filter for Iret, used in track loss ($\overline{TL}$) detector and LF gain control
15	FE	O	Current output of normalized, switched focus error signal
16	FElag	O	Current output of switched focus error signal, intended for lag network
17	LO	O	Laser amplifier current output
18	LM	I	Laser monitor diode input
19	GCLF	I	Gain control input for AC and LF amplifiers. Current output from LF amplitude detector
20	Re2	O	Summation of amplified currents from D3 and D4
21	Re1	O	Summation of amplified currents from D1 and D2
22, 23	D1, D2	I	Current inputs to DC and LF photo diode amplifier
24, 25	D3, D4	I	Current inputs to DC and LF photo diode amplifier
26	HFin	I	Current input to HF amplifier
27	GND	I	Ground connection of device
28	DEC	I	Decoupling input (internal bypass)

• IC6503 (482220973235/TDA8809T): Radial error signal processor

Pin No.	Mark	I/O Division	Function
1	Vp	I	Positive supply voltage
2	Cosc1	I	Frequency setting capacitors for oscillator
3	Cosc2		
4	Rwob	I	Wobble generator input
5	Rosc	I	Biassing resistor for oscillator frequency and internal amplitude
6	$\overline{DIV4}$	I	Radial error digital signal devided by four
7	REdig	O	Digital output of sign (Re2−Re1)
8	B3	I	Input control bits for off-, catch-, play-status and DAC output current
9	B2		
10	B1		
11	B0		
12	Vext (+)	I	Positive external voltage input
13	Vext (−)	I	Negative external voltage input (also substrate connection)
14	GND	I	GND terminal
15	RADout	O	Current output of amplified (Re2−Re1) input currents
16	REin	I	Radial error input
17	RElag	O	Voltage output of integrated (Re2−Re1) input currents
18	Lag	I	Connection of integrator capacitor for (Re1−Re2) input currents
19	Lead	O	Lead output
20	Vref	I	Internal reference voltage output
21	AGC	I	Gain control input for radial error signal
22	RDAC	O	Biassing resistor for current output for track jumping ($3^1/_2$ bits)
23	offset in	I	Offset control input for radial offset
24	offset off	O	Offset control output for radial offset
25	CLPF	I	Low-pass filter for Re1 and Re2, used for radial offset control
26	CHPF	I	High-pass filter for Re1 and Re2, used for radial offset control
27	Re1	I	Input for amplified currents from photo diodes D1 and D2
28	Re2	I	Input for amplified currents from photo diodes D3 and D4

• IC301 (MN6626): Digital signal processor

Pin No.	Mark	I/O Division	Function
1	AVSS	—	GND terminal
2	IREF	I	Reference current input
3	ARF	I	RF signal input
4	DRF	I	DSL bias terminal (Not used, open)
5	DSLF	I/O	DSL loop filter terminal
6	PLLF	I/O	PLL loop filter terminal
7	AVDD	I	Power supply terminal
8	RSEL	I	RF signal polarity setting terminal (Not used, connected to VDD)
9 ⟆ 16	TBUS7 ⟆ TBUS0	O	Test terminal
17	FLAG	O	Flag terminal
18	IPFLAG	O	Interpolation flag terminal
19	FCLK	O	Crystal frame clock (Not used, open)
20	BYTCK	O	Byte clock (Not used, open)
21	WDCK	O	Word clock (Not used, open)
22	$\overline{RST}$	I	Reset terminal
23	TX	O	Digital audio signal (Not used, open)
24	LDG	O	Lch deglitch signal (Not used, open)
25	RDG	O	Rch deglitch signal (Not used, open)
26	SRDATA	O	Serial data output (MSB first)
27	SCK	O	Serial bit clock output
28	LRCK	O	L/R discriminating signal
29	XCK	O	Crystal OSC terminal (f=16.9344MHz)
30	PMCK	O	Frequency division clock signal (Not used, open) ($f=\frac{1}{192}\times CK=88.2kHz$)
31	CSEL	I	Test terminal (Connected to GND)
32	PSEL		
33	X1	I	Crystal OSC terminal (f=16.9344MHz)
34	X2	O	
35	VSS	—	GND terminal
36	SUBQ	O	Sub-code Q data
37	SQCK	I	Sub-code Q register clock
38	$\overline{CLDCK}$	O	Sub-code frame clock (f=7.35kHz) (Not used, open)

Pin No.	Mark	I/O Division	Function
39	BLKCK	O	Sub-code block clock (f=75Hz)
40	DEMPH	O	De-emphasis ON signal ("H": ON)
41	MEMP	I	Emphasis signal
42	MLD	I	Command load signal ("L": LOAD)
43	MCLK	I	Command clock signal
44	MDATA	I	Command data signal
45	D MUTE	I	Muting input ("H": MUTE)
46	SMCK	O	System clock (f=4.2336MHz)
47	STAT	O	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK)
48	CRC	O	Sub-code CRC check terminal ("H": OK, "L": NG)
49	SUBC	O	Sub-code serial output data (Not used, open)
50	SBCK	I	Sub-code serial output clock (Not used, open)
51	$\overline{TRON}$	I	Tracking servo ON signal ("L": ON)
52	CLVS	O	Turntable servo phase synchro signal ("H": CLV, "L": Rough servo)
53	PC	O	Turntable motor ON signal ("L": ON)
54	ECM	O	Turntable motor drive signal (Forced mode)
55	ECS	O	Turntable motor drive signal (Servo error signal)
56	VDD	I	Power supply terminal
57	$\overline{TEST}$	I	Test terminal (Normal: "H")
58	SSEL	I	"SUBQ" terminal mode select ("H": Q code buffer)
59	MSEL	I	"SMCK" terminal frequency select ("L": SMCK=4.2336MHz)
60	RESY	O	Re-synchronizing signal of frame sync. (Not used, open)
61	DO	I	Drop-out detection signal ("H": Drop-out) (Not used, connected to GND)
62	EFM	O	EFM signal (Not used, open)
63	PCK	O	PLL extract clock (f=4.3218MHz)
64	PDO	O	Phase comparated signal of EFM and PCK (Not used, open)

• IC401 (MN1871617PKJ): System control & FL drive

Pin No.	Mark	I/O Division	Function
1	VDD	I	Power supply terminal
2	OSC2	I	System clock input (f=4.2336MHz)
3	OSC1		
4	VSS	—	GND terminal
5	XI	I	Radial error digital signal
6	XO	O	Not Used, open
7	P47	I	
8 ∫ 12	P46 ∫ P42	I	Key return signal
13	SYNC REC	O	Synchro rec control
14	REC ENABLE	I	
15 ∫ 18	D3 ∫ D0	—	Not used, open
19	CLK	—	Not used, open
20	ACK		
21	BSEND		
22	BRECV		
23	P27		
24	OPEN/ CLOSE	O	Loading motor control signal
25	DMUTE	O	Muting output ("H": MUTE)
26	SI/RD	I/O	On/off control and ready signal
27 ∫ 30	B3 ∫ B0	O	Control bits for off-, catch-, play-status and DAC output current
31	REMOCON	I	Remote control signal
32	REDIG	I	Radial error digital signal
33	MDATA	O	Command data signal
34	MCLK	O	Command clock signal
35	MLD	O	Command load signal ("L": LOAD)

Pin No.	Mark	I/O Division	Function
36	TL	I	Track loss input
37	RST	I	Reset terminal
38	SQCK	O	Sub-code Q register clock
39	SUBQ	I	Sub-code Q data
40	TRAY SW	I	Disc holder open/close det. terminal
41	BLKCK	I	Sub-code block clock (f=75Hz)
42	DODS	O	Drop-out detect signal
43	STAT	I	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK)
44	P95	—	Not used, open
45	CLVS	I	Spindle servo phase synchro signal ("H": CLV, "L": Rough servo)
46	TRON	O	Tracking servo ON signal ("L": ON)
47	DIV4	O	Radial error digital signal devided by four
48	EMPH	O	Emphasis signal
49	HFD	I	PLL on hold input
50	CM	—	Not used, connected to GND
51	130Hz	—	Not used, open
52	VPP	I	Power supply terminal for FL drive
53 ∫ 56	16G ∫ 13G	—	Not used, open
57 ∫ 68	12G ∫ 1G	O	FL digit signal
69 ∫ 84	A/SEGO ∫ P/SEGP	O	FL segment signal and key scan signal

• IC801 (MN6474): Digital filter and D/A converter

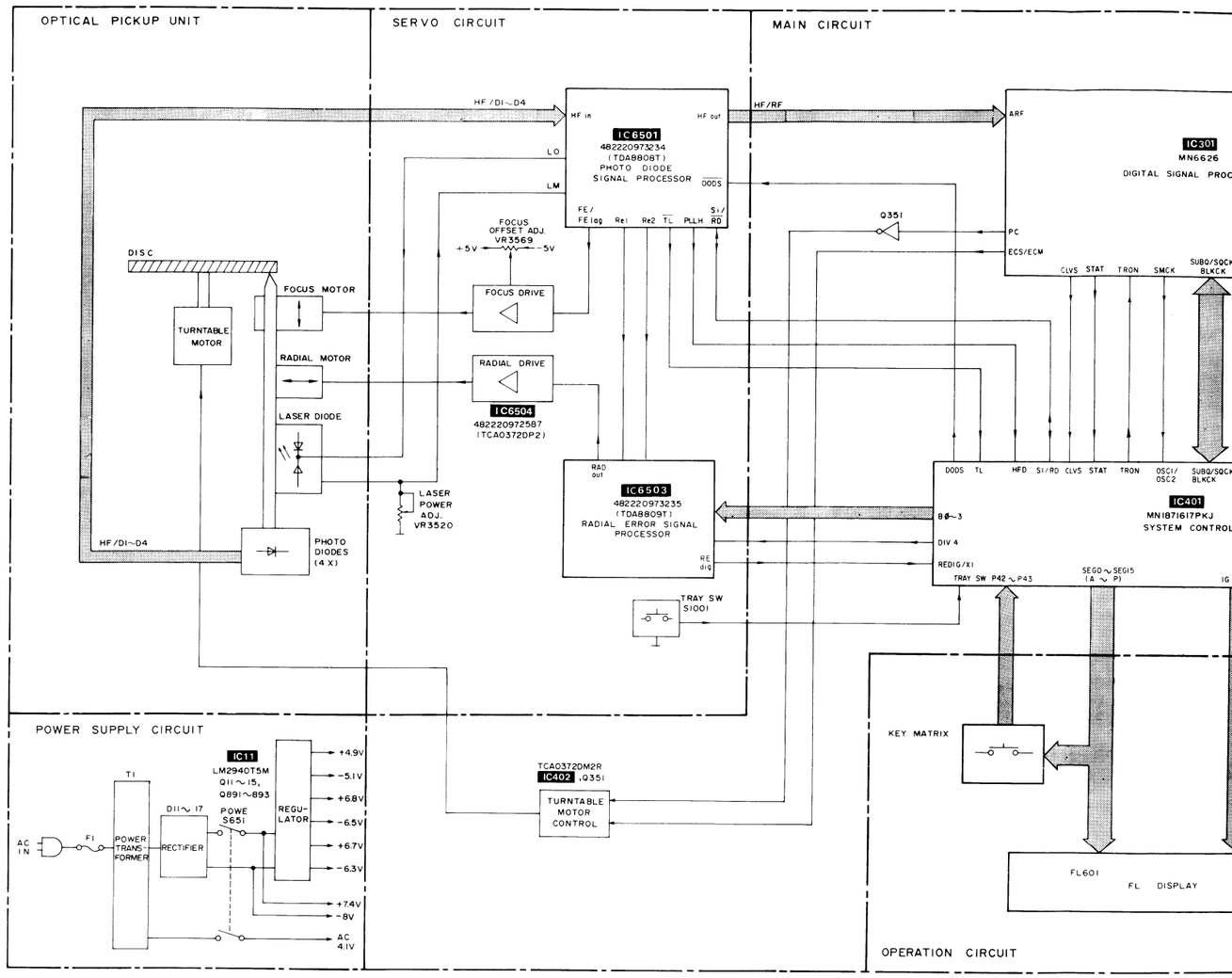
Pin No.	Mark	I/O Division	Function
1	MLD	I	Command load input (load: L) (Not used, connected to VDD)
2	RSTB	I	Reset terminal
3	IE	I	Not used, connected to GND
4	TP1	—	TEST terminal
5	TP2	—	
6	TEST1	I	TEST terminal 1 (connected to GND)
7	TEST2	I	TEST terminal 2 (connected to GND)
8	NC	—	Not connected
9	NC	—	Not connected
10	AVDD4	I	Power supply terminal
11	OUTL (−)	O	Lch data output, (−) terminal
12	AVSS4	I	GND terminal
13	AVSS3	I	GND terminal
14	OUTL (+)	O	Lch data output, (+) terminal
15	AVDD3	I	Power supply terminal
16	NC	—	Not connected
17	AVDD2	I	Power supply terminal
18	OUTR (+)	O	Rch data output, (+) terminal
19	AVSS2	I	GND terminal (analog system)
20	AVSS1	I	GND terminal (analog system)
21	OUTR (−)	O	Rch data output, (−) terminal
22	AVDD1	I	Power supply terminal
23	DVDD1	I	Power supply terminal

Pin No.	Mark	I/O Division	Function
24	DVSS1	I	GND terminal (digital system)
25	X2	O	Crystal OSC terminal (33 MHz)
26	X1	I	
27	NC	—	Not connected
28	DVDD2	I	Power supply terminal
29	DVSS2	I	GND terminal (digital system)
30	NSUB	I	Sub-strate terminal (Not used, connected to VDD)
31	ZFLGB	O	Zero input detector terminal (Not used, open)
32	192fs	O	192fs (8.4672 MHz) (Not used, open)
33	LRPOL	I	LR clock selector (Not used, connected to VDD)
34	LRCLK	I	LR discrimination signal input
35	BCLK	I	Serial bit clock input
36	SRDATA	I	Serial data input (MSB first)
37	DVSS3	I	GND terminal (digital system)
38	DVDD	I	Power supply terminal
39	384fs	O	384fs (16.9344 MHz) output
40	PD	I	Power down terminal (Not used, connected to GND)
41	MDATA	I	Mode control data (Not used, connected to VDD)
42	MCLK	I	Data clock for MDATA (not used, connected to VDD)

■ BLOCK DIAGRAM

Note)

• ——► Audio signal.



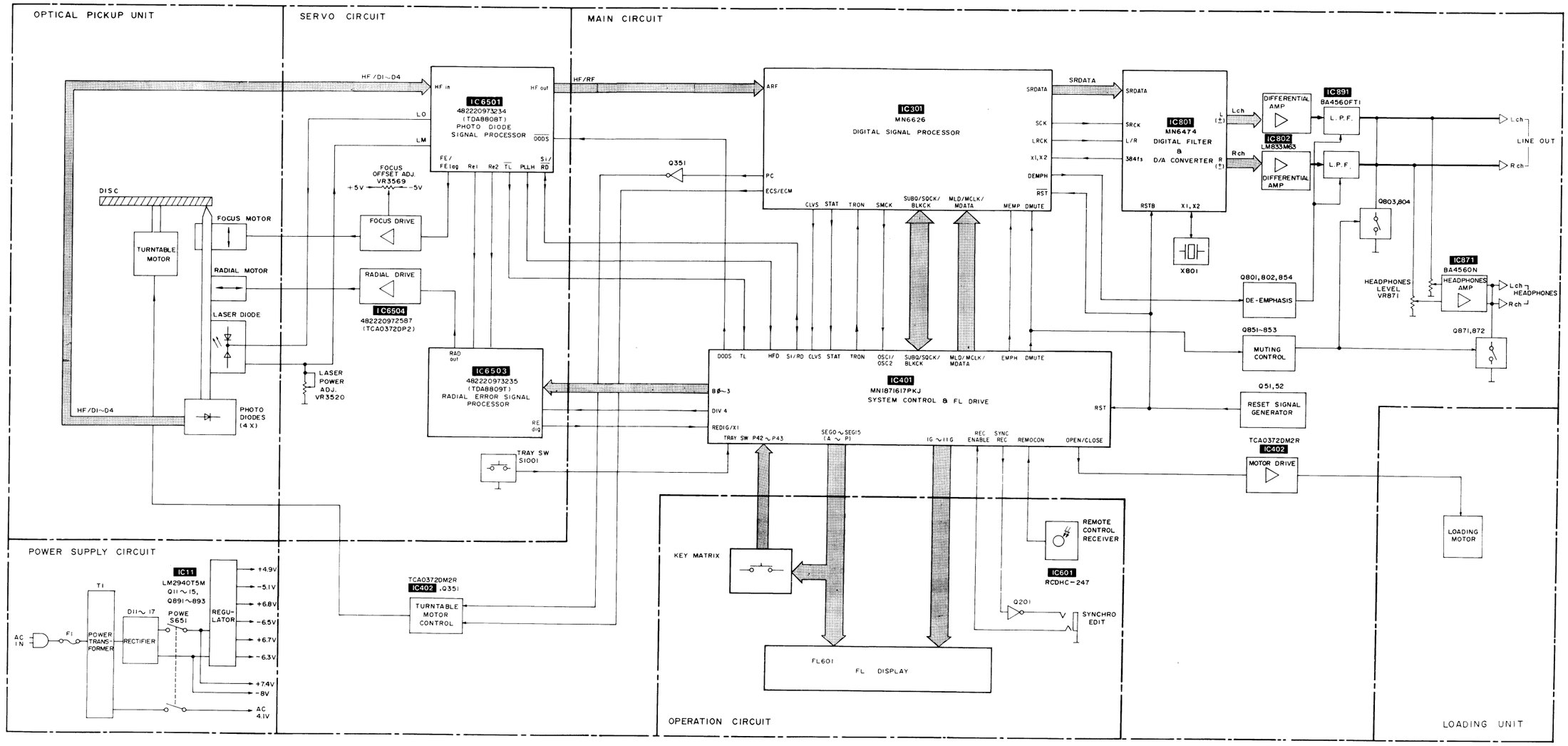
RAD out	: Current output of integrated (Re2−Re1) input currents.	RE dig (RE DIG/X1)	: Radial error digital.	P42~46	: Key
B0~B3	: Control bits for radial circuit.	RE lag	: Radial error signal for LAG network.	1G~12G	: FL
DODS	: Drop out detect signal.	Si/$\overline{RD}$	: On/off control for laser supply and focus circuit.	SEG0~15	: FL
D1~D4	: Photodiode currents.			$\overline{MCLK}$	: Dat
FE	: Focus error signal.	$\overline{TL}$	: Track loss signal.	$\overline{SUBQ}$	: Sub
FE lag	: Focus error signal for LAG network.	Div4	: Radial error digital devided by four.	$\overline{CLDCK}$	: Dat
HF out	: HF amplifier and equalizer voltage output.	HF/RF/ARF	: RF (Audio) signal.	BLKCK	: Sub
HFin	: HF current input.	TRAY SW	: Disc holder open/close det. terminal.	$\overline{SQCK}$	: Sub
LM	: Laser monitor diode input.	CLVS	: Spindle servo phase synchro signal.	$\overline{RST}$	: Res
LO	: Laser amplifier current output.	STAT	: Status command for CRC etc.	($\overline{RSTB}$)	
Re1	: Radial error signal 1 (summation of amplified currents D3 and D4).	DMUTE	: Data mute command.	$\overline{TRON}$	: Tra
Re2	: Radial error signal 2 (summation of amplified currents D1 and D2).	MDATA	: Mode control data.	ECS/ECM	: Tur
		MLD	: Load command for mode control data (Active Low).	PC	: Tur
				SMCK (OSC1/OSC2)	: Sys

Function
inal (digital system)
SC terminal (33 MHz)
cted
ply terminal
nal (digital system)
terminal connected to VDD)
detector terminal open)
72 MHz) open)
elector connected to VDD)
ination signal input
lock input
input (MSB first)
nal (digital system)
ply terminal
344 MHz) output
n terminal connected to GND)
rol data connected to VDD)
for MDATA connected to VDD)

■ BLOCK DIAGRAM

Note)

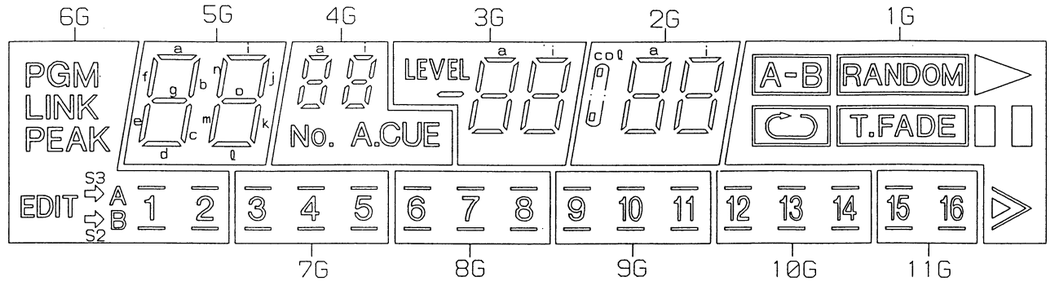
• ⟶ Audio signal.



RAD out	: Current output of integrated (Re2−Re1) input currents.
B0~B3	: Control bits for radial circuit.
DODS	: Drop out detect signal.
D1~D4	: Photodiode currents.
FE	: Focus error signal.
FE lag	: Focus error signal for LAG network.
HF out	: HF amplifier and equalizer voltage output.
HFin	: HF current input.
LM	: Laser monitor diode input.
LO	: Laser amplifier current output.
Re1	: Radial error signal 1 (summation of amplified currents D3 and D4).
Re2	: Radial error signal 2 (summation of amplified currents D1 and D2).
RE dig (RE DIG/X1)	: Radial error digital.
RE lag	: Radial error signal for LAG network.
Si/$\overline{RD}$	: On/off control for laser supply and focus circuit.
$\overline{TL}$	: Track loss signal.
Div4	: Radial error digital devided by four.
HF/RF/ARF	: RF (Audio) signal.
TRAY SW	: Disc holder open/close det. terminal.
CLVS	: Spindle servo phase synchro signal.
STAT	: Status command for CRC etc.
DMUTE	: Data mute command.
MDATA	: Mode control data.
MLD	: Load command for mode control data (Active Low).
P42~46	: Key return signal.
1G~12G	: FL digit signal.
SEG0~15	: FL segment signal and key scan signal.
MCLK	: Data clock for MDATA.
SUBQ	: Sub-code Q data.
CLDCK	: Data frame clock (7.35 KHz).
BLKCK	: Sub-code Q data block clock (75 Hz).
SQCK	: Sub-code Q register clock.
$\overline{RST}$ ($\overline{RSTB}$)	: Reset command (Active Low).
$\overline{TRON}$	: Tracking servo ON command (Active Low).
ECS/ECM	: Turntable motor drive signal.
PC	: Turntable motor ON command (Active Low).
SMCK (OSC1/OSC2)	: System clock (4.2336 MHz).
LRCK/L/R	: L/R data discrimination clock (88.2 KHz).
SRDATA	: Serial data output (MSB first).
SCK (SRCK)	: Serial bit clock (2.82 MHz).
MEMP/EMPH	: De-emphasis command (Active High).
SYNC REC/ REC ENABLE	: Synchro rec control.
REMOCON	: Remote control signal.
384 fs/X1, X2	: 384 fs (16.9344 MHz) signal.
DEMPH	: De-emphasis ON signal.
L (±)	: Lch data signal.
R (±)	: Rch data signal.
OPEN/CLOSE	: Loading motor control signal.

■INTERNAL CONNECTION OF FL

• Grid connection diagram

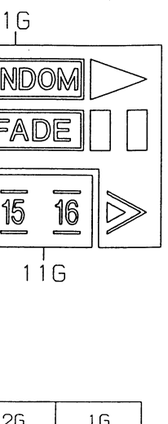


• Anode connection table

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	15	12	9	6	3	EDIT A/B	a	a	a	a	▷
P2	—(15)	—(12)	—(9)	—(6)	—(3)	S2	b	b	b	b	▯▯
P3	‾(15)	‾(12)	‾(9)	‾(6)	‾(3)	S3	f	f	f	f	RANDOM
P4	16	13	10	7	4	1	g	g	g	g	T.FADE
P5	—(16)	—(13)	—(10)	—(7)	—(4)	—(1)	c	c	c	c	↻
P6	‾(16)	‾(13)	‾(10)	‾(7)	‾(4)	‾(1)	e	e	e	e	A-
P7	-	14	11	8	5	2	d	d	d	d	B
P8	-	—(14)	—(11)	—(8)	—(5)	—(2)	-	No.	⬭	col	▷
P9	-	‾(14)	‾(11)	‾(8)	‾(5)	‾(2)	i	i	i	i	>
P10	-	-	-	-	-	PGM	j	j	j	j	-
P11	-	-	-	-	-	LINK	n	n	n	n	-
P12	-	-	-	-	-	-	o	o	o	o	-
P13	-	-	-	-	-	PEAK	k	k	k	k	-
P14	-	-	-	-	-	-	m	m	m	m	-
P15	-	-	-	-	-	-	Q	Q	Q	Q	-
P16	-	-	-	-	-	-	-	A.CUE	LEVEL	-	-

• Pin connection

| PIN NO. | 3 3 3 3 3 3 3 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 | | |



2G	1G
a	▷
b	▯▯
f	RANDOM
g	T.FADE
c	⟲
e	A-
d	B
col	▷
i	>
j	–
n	–
o	–
k	–
m	–
ℓ	–
–	–

■ SCHEMATIC DIAGRAM

(Parts list on page 31, 32, 38, 39.)

(This schematic diagram may be modified at any time with development of new technology.)

Notes:

- **S613** : Play (▶ PLAY) switch.
- **S614** : Skip (|◀◀ SKIP) switch.
- **S615** : Search (◀◀ SEARCH) switch.
- **S616** : Program (PROGRAM) switch.
- **S617** : Disc link (DISC LINK) switch.
- **S618** : Auto cue (AUTO CUE) switch.
- **S619** : Stop (■ STOP) switch.
- **S620** : Skip (▶▶| SKIP) switch.
- **S621** : Search (▶▶ SEARCH) switch.
- **S622** : Recall (RECALL) switch.
- **S623** : Tape-side select (SIDE A/B) switch.
- **S624** : Random play (RANDOM) switch.
- **S625** : Time fade (TIME FADE) switch.
- **S626** : Disc holder open/close (▲ OPEN/CLOSE) switch.
- **S627** : Pause (II PAUSE) switch.
- **S628** : Repeat (REPEAT) switch.
- **S629** : Clear (CLEAR) switch.
- **S630** : Edit tape length (TAPE LENGTH) switch.
- **S631** : Time mode select (TIME MODE) switch.
- **S632** : Peak level search (PEAK SEARCH) switch.
- **S651** : Power "**STANDBY** ⏻ **/ON**" (POWER) switch in "**on**" position.
- **S1001** : Tray (OPEN/CLOSE) switch.

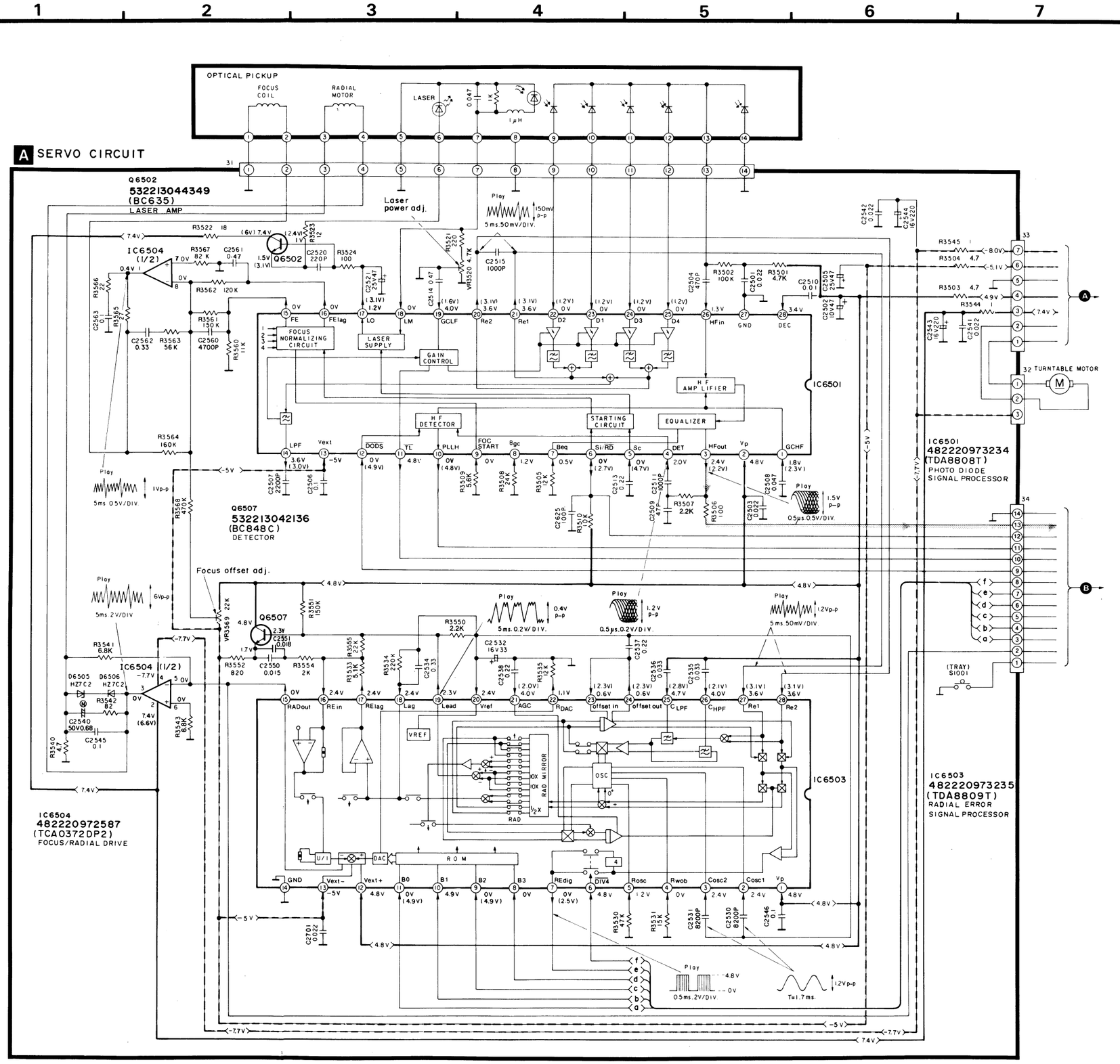
- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
  Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
  * The parenthesized are the values of voltage generated during playing (Test disc 1kHz, L+R, 0dB), others are voltage values in stop mode.
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Part No.	Original Part No.	Supply Part No.
IC11	LM2940T5M	LM2940T5
IC601	RCDHC-247	RCD0003
IC891	BA4560FT1	SVIBA4560FT1

- ——— / – – – – – : Positive voltage lines and negative voltage lines.
  ⋙⋙ : Audio signal lines.

Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the pins of IC or LSI with fingers directly.



B OPERATION CIRCUIT

FL602 (RSL0066-F)

FL DISPLAY

R601 12

IC601
RCDHC-247
REMOTE CONTROL
RECEIVER

IC601

D601 1SS254TA
D602 1SS254TA
D603 1SS254TA
D604 1SS254TA
D605 1SS254TA
D606 1SS254TA
D607 1SS254TA

S630 (TAPE LENGTH)
S623 (SIDE A/B)
S631 (TIME MODE)
S629 (CLEAR)
S617 (DISC LINK)
S622 (RECALL)
S616 (PROGRAM)
S625 (TIME FADE)
S615 (SEARCH◀◀)
S624 (RANDOM)
S618 (AUTO CUE)
S621 (SEARCH▶▶)
S628 (REPEAT)
S632 (PEAK SEARCH)
S627 (PAUSE ▮▮)
S613 (PLAY ▶)
S619 (STOP ■)
S620 (SKIP ▶▶)
S626 (OPEN/CLOSE ⏏)
S614 (SKIP◀◀)

C POWER SWITCH CIRCUIT

FC611 FC611
S651 (POWER)
standby on
C602 1000P
C601 1000P

CN611 CN612 CN613 CN614

D MAIN CIRCUIT

IC402
TCA0372DM2R
MOTOR DRIVE

IC402(1/2)

R436 220K
R435 100K
R432 22K
R431 22K
R433 100K
R434 22K
R438 22K
R437 22K

CN431
LOADING MOTOR

CN412
IC402(1/2)
R351 10K
R355 33K
R353 12K
R356 33K
R352 100K
C351 1000P
R354 100K
R357 6.8(1/4W)

CN401
CN411
CN412
CN413
CN414

IC401
MN1871617PKJ
SYSTEM CONTROL & FL DRIVE

R401 100K

Q201
DTC124ESTP
SWITCHING(SYNC)

C402 6.3V47
C401 0.1

IC301
MN6626
DIGITAL SIGNAL
PROCESSOR

Q351
DTA124ESTP
MOTOR CONTROL

C304 0.1
C309 0.1
C305 1000P
C306 0.022
C307 0.47
C308 1000P
R302 82K
R303 100K
R304 470
C404 0.1
C845 0.1
R837 10
R838 10
C303 0.1
R411 4.7K
R412 4.7K
C301 0.01
R301 1.8K
C302 27P
C312 0.01
R315 100K
R834 1K
L832 4.7μH
R840 100

15 16 17 18 19 20 21 22 23 24 25

IC401
MN1871617PKJ
SYSTEM CONTROL & FL DRIVE

Q201
DTC124ESTP
SWITCHING(SYNCHRO REC)

IC11
LM2940T5M
REGULATOR

Q11,15
2SA1309QRSTA
REGULATOR

Q16
2SB1238QSTV6
REGULATOR

Q51,52
2SC3311QRSTA
RESET SIGNAL GENERATOR

Q12
2SC3311QRSTA
REGULATOR

Q13,14
2SA1309QRSTA
REGULATOR

Q852
DTA124ESTP
MUTING CONT.

Q891
2SC3311QRSTA
REGULATOR

Q892,893
2SA1309QRSTA
REGULATOR

Q853
DTA114ESTP
MUTING CONT.

Q851
DTC124ESTP
MUTING CONT.

IC802
LM833M63
DIFFERENTIAL AMP

IC801
MN6474
DIGITAL FILTER & D/A CONV.

IC301

Q351

E POWER SUPPLY CIRCUIT

For (EB) area.

AC IN
230V ------ (E,EG)
230V-240V ---- (EB)
50/60Hz

SYNCHRO EDIT

F HEADPHONES CIRCUIT

IC871 (1/2)

IC871
BA4560N
HEADPHONES AMP

Q871
Q872
2SD1450RSTTA
MUTING

HEADPHONES

IC891 (1/2)

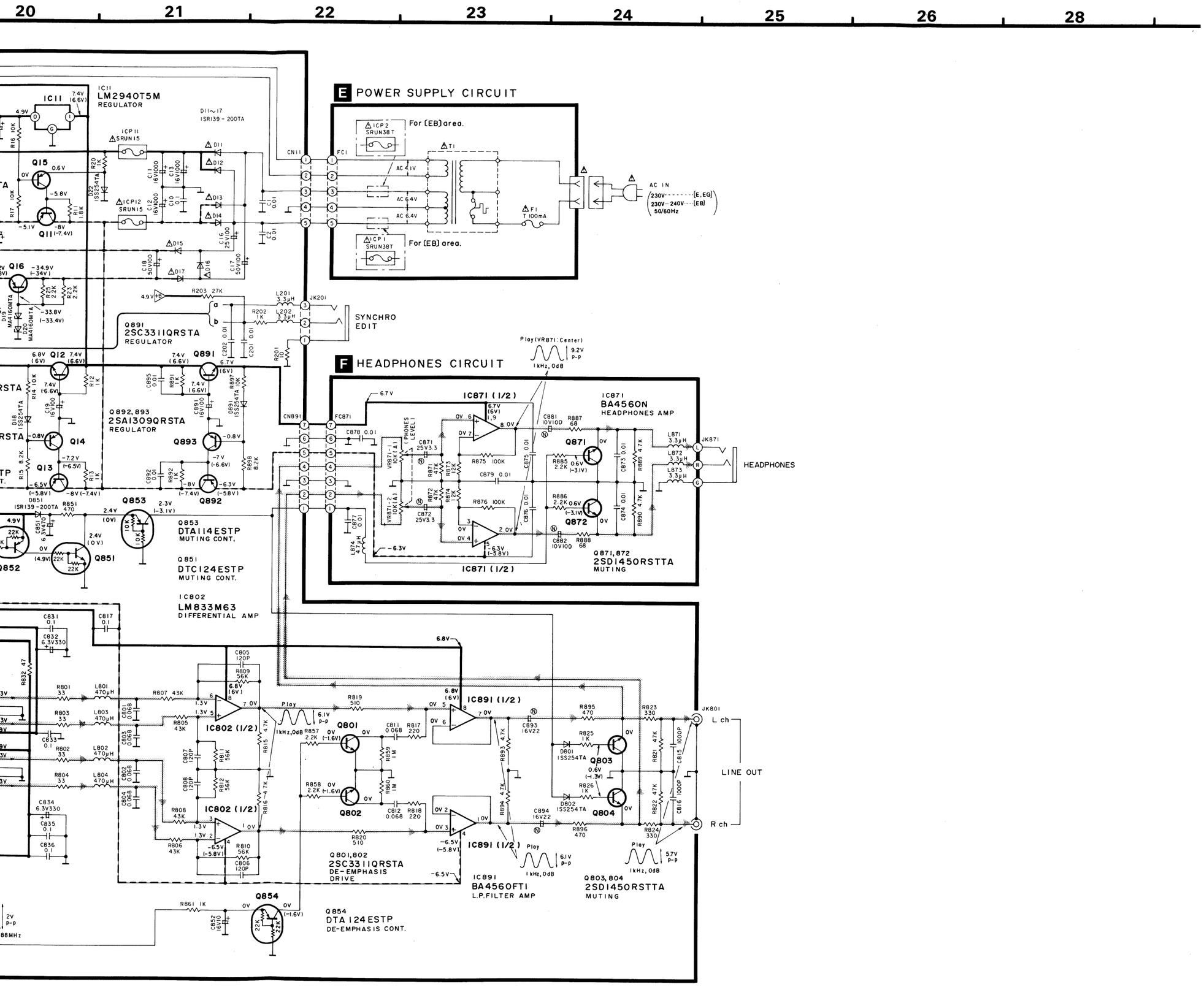
IC891
BA4560FTI
L.P.FILTER AMP

Q801,802
2SC3311QRSTA
DE-EMPHASIS DRIVE

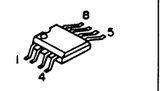
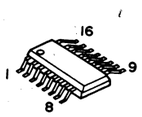
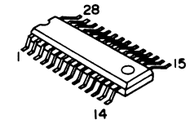
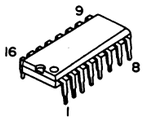
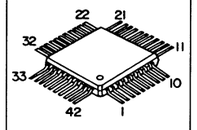
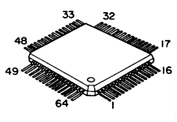
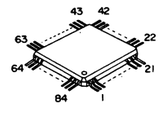
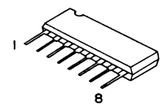
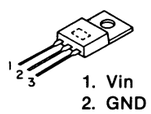
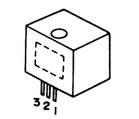
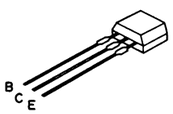
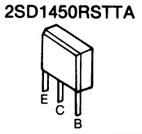
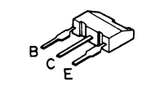
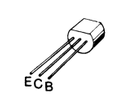
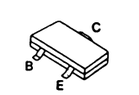
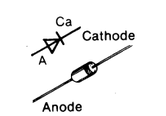
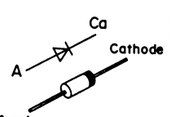
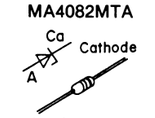
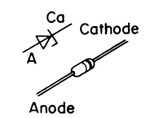
Q803,804
2SD1450RSTTA
MUTING

Q854
DTA124ESTP
DE-EMPHASIS CONT.

LINE OUT
L ch
R ch



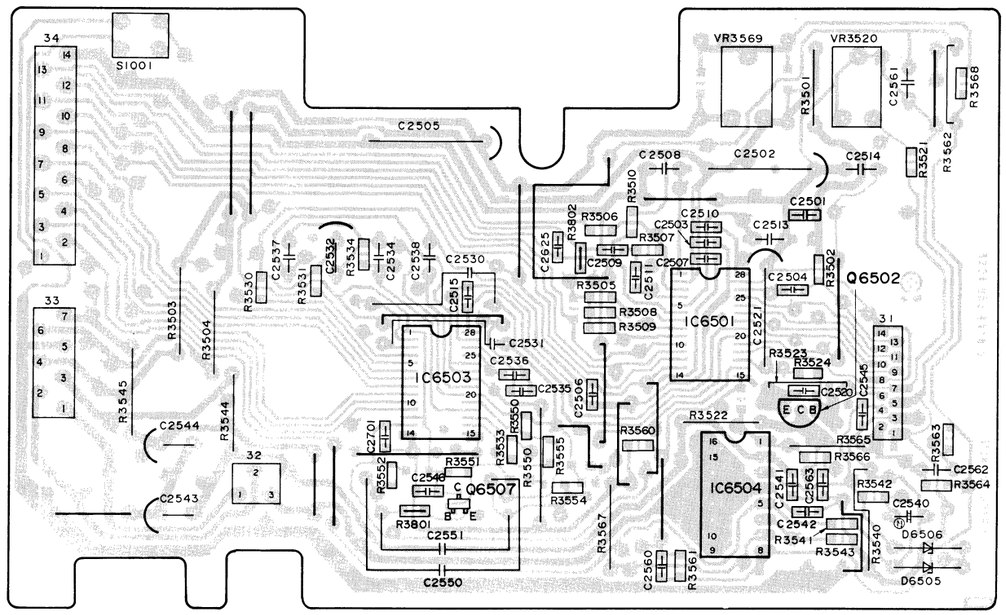
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

BA4560FT1 	LM833M63	TCA0372DM2R 
	482220973234 (TDA8808T) 482220973235 (TDA8809T)	482220972587 (TCA0372DP2) 
MN6474 	MN6626 	MN1871617PKJ 
BA4560N 	LM2940T5M  1. Vin 2. GND 3. Vout	RCDHC-247 
	DTA114ESTP DTA124ESTP DTC124ESTP	2SA1309QRSTA 2SC3311QRSTA 2SD1450RSTTA 
2SB1238QSTV6 	532213044349 (BC635) 	532213042136 (BC848C) 
1SS254TA 	1SR139-200TA 	MA4039MTA MA4082MTA 
MA4160MTA 		

SL-PG200A SL-PG200A

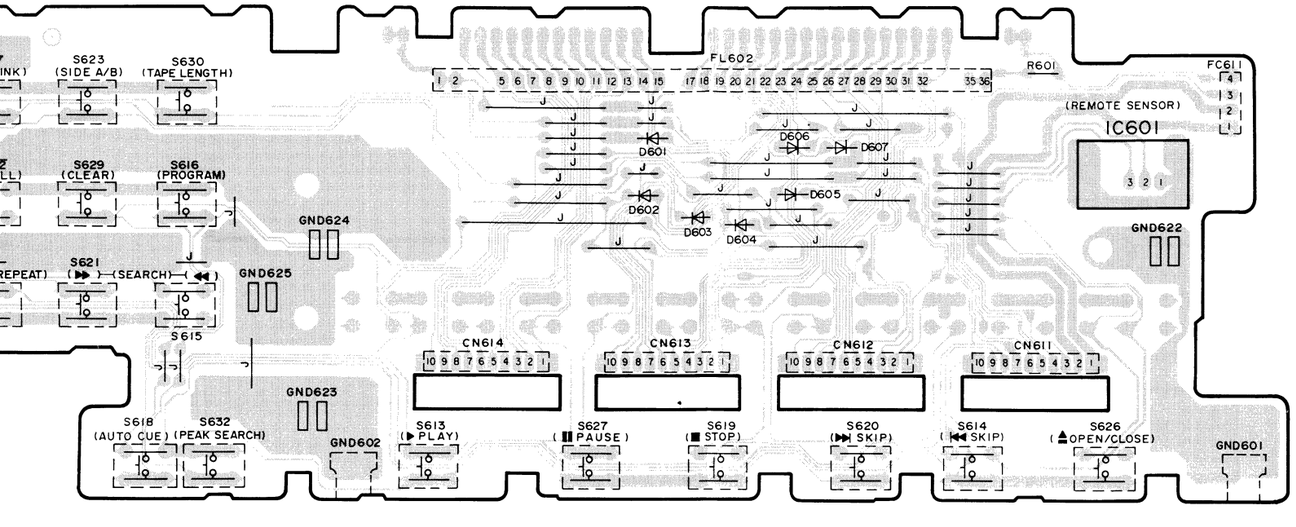
■ PRINTED CIRCUIT BOARDS

A SERVO P.C.B.

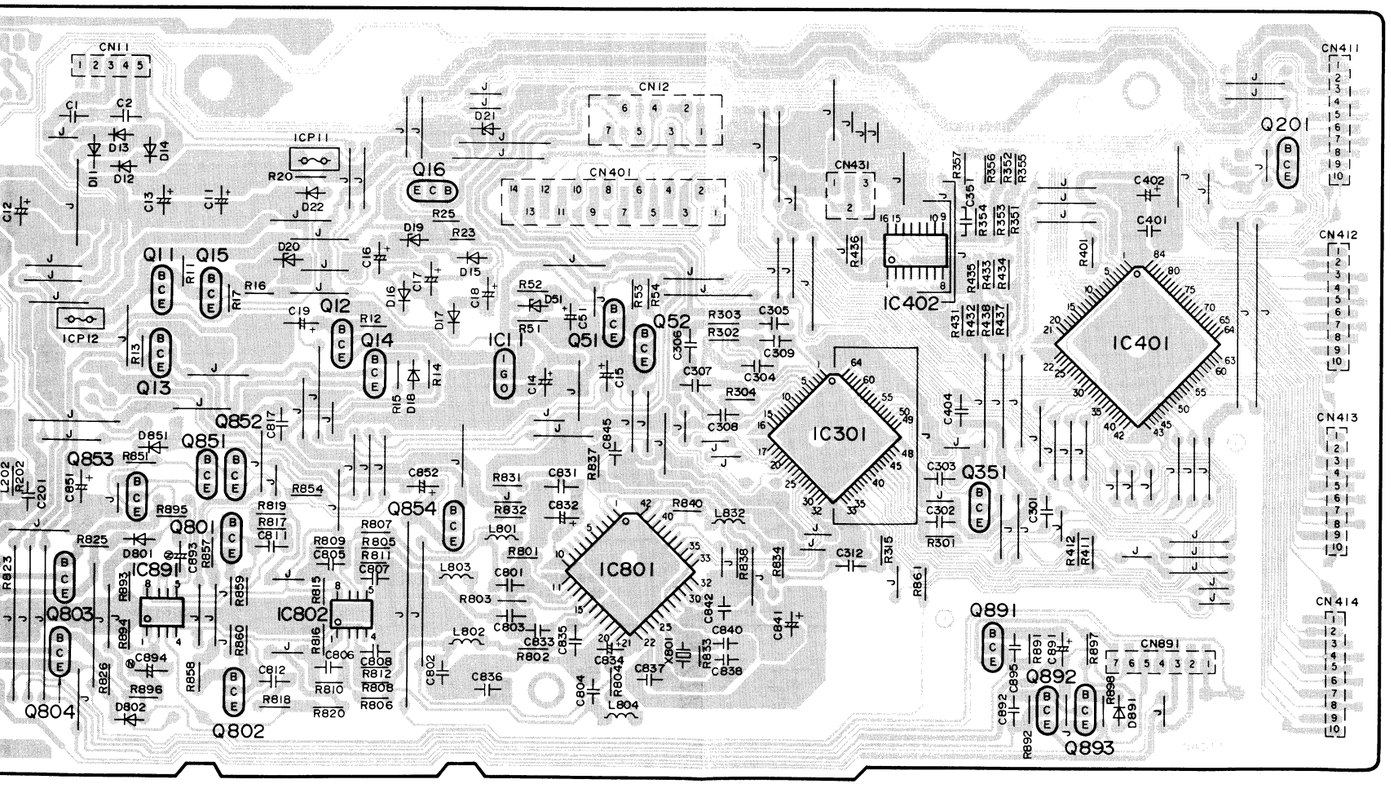


7 8 9 10 11 12 13 14 15 16

C. B.

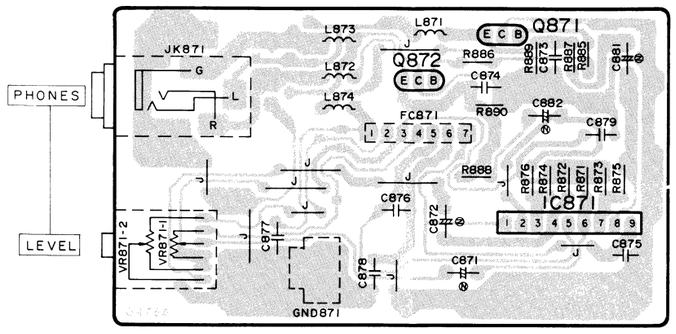


I P.C.B.

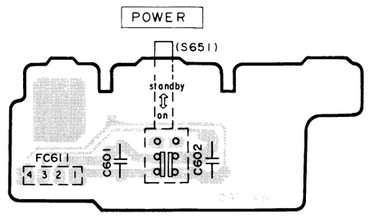


— 27 —

F HEADPHONES P.C.B.

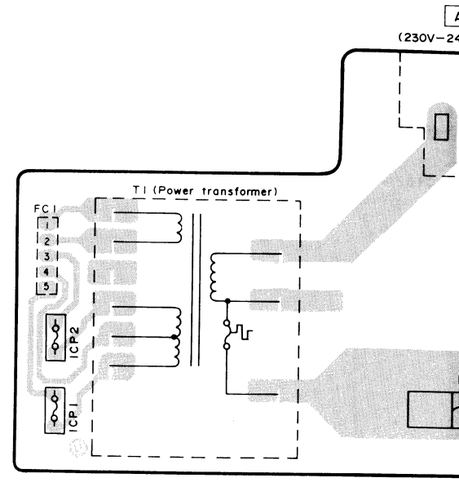


C POWER SWITCH P.C.B.

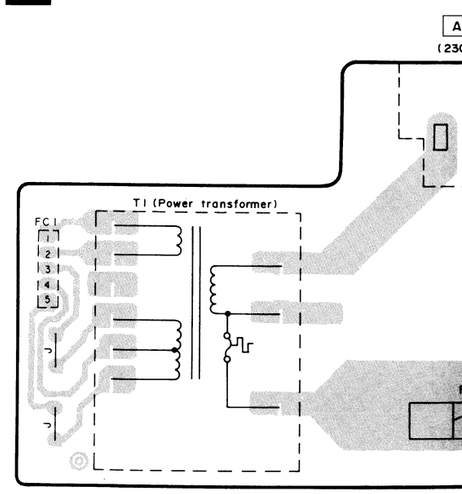


— 28 —

E POWER SUPPLY P.C.B. For(EB) area.



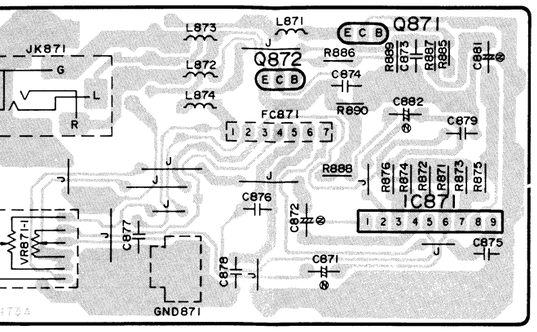
E POWER SUPPLY P.C.B. For(E,EG) area



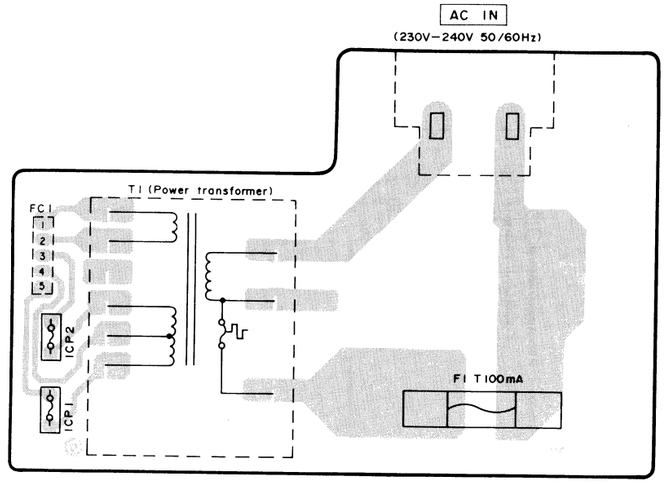
— 29 —

13 14 15 16 17

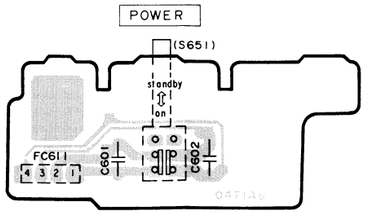
F HEADPHONES P.C.B.



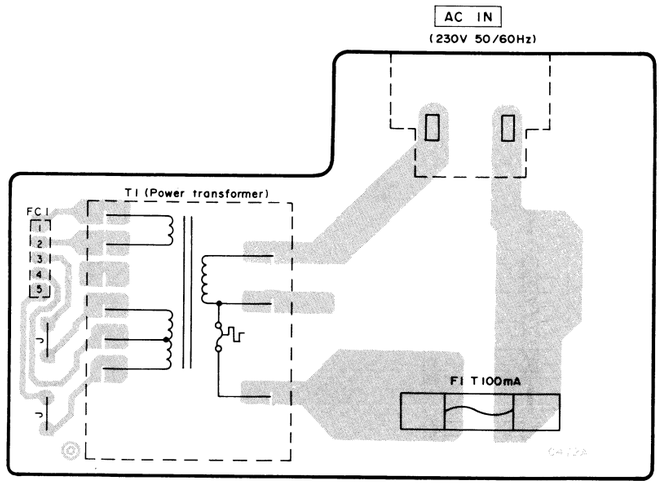
E POWER SUPPLY P.C.B. For(EB) area.



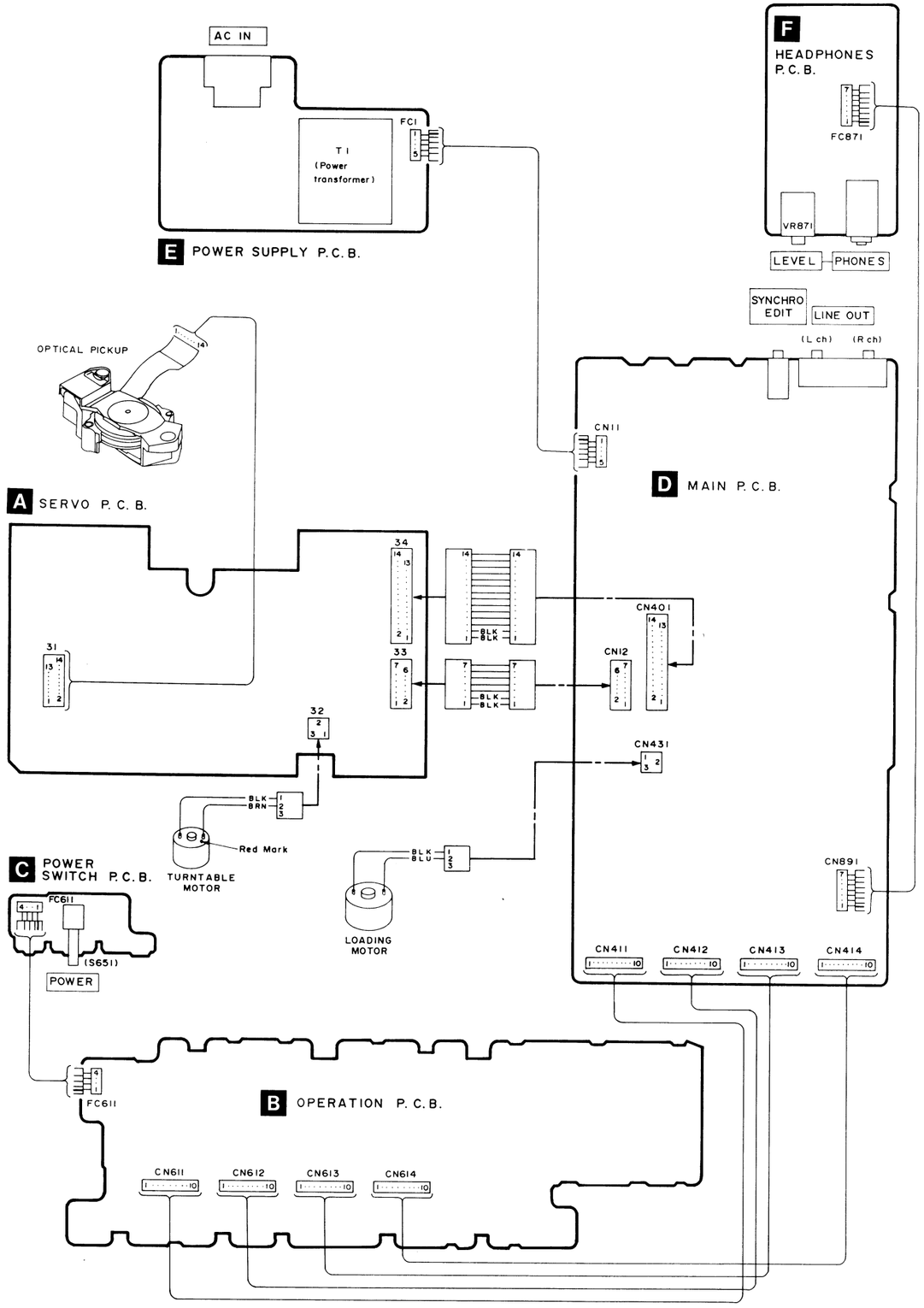
C POWER SWITCH P.C.B.



E POWER SUPPLY P.C.B. For(E,EG) areas



WIRING CONNECTION DIAGRAM



■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
* Remote Control Ass'y:
Supply period for three years from termination of production.
* [MB] Indicates in Remarks columns parts that are supplied by MBV.
* Warning: This product uses a laser diode. Refer to caution statements on page 3.
* ACHTUNG: Die lasereinheit nicht zerlegen.
Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC11	LM2940T5	IC, REGULATOR	
IC301	MN6626	IC, DIGITAL SIGNAL PROCESSOR	
IC401	MN1871617PKJ	IC, SYSTEM CONTROL&FL DRIVE	[MB]
IC402	TCA0372DM2R	IC, MOTOR DRIVE	
IC601	RCD0003	IC, REMOTE CONTROL RECEIVER	
IC801	MN6474	IC, DIGITAL FILTER&D/A CONV.	
IC802	LM833M63	IC, DIFFERENTIAL AMP	
IC871	BA4560N	IC, HEADPHONES AMP	
IC891	SVIBA4560FT1	IC, L. P. F.	
		TRANSISTOR(S)	
Q11	2SA1309A-R	TRANSISTOR	
Q12	2SC3311A-Q	TRANSISTOR	
Q13-15	2SA1309A-R	TRANSISTOR	
Q16	2SB1238QSTV6	TRANSISTOR	
Q51, 52	2SC3311A-Q	TRANSISTOR	
Q201	DTC124EST	TRANSISTOR	
Q351	DTA124ESTP	TRANSISTOR	
Q801, 802	2SC3311A-Q	TRANSISTOR	
Q803, 804	2SD1450RTA	TRANSISTOR	
Q851	DTC124EST	TRANSISTOR	
Q852	DTA124ESTP	TRANSISTOR	
Q853	DTA114ESTP	TRANSISTOR	
Q854	DTA124ESTP	TRANSISTOR	
Q871, 872	2SD1450RTA	TRANSISTOR	
Q891	2SC3311A-Q	TRANSISTOR	
Q892, 893	2SA1309A-R	TRANSISTOR	
		DIODE(S)	
D11-17	1SR139-200TA	DIODE	⚠
D18	1SS254TA	DIODE	
D19, 20	MA4160M	DIODE	
D21	MA4082MTA	DIODE	
D22	1SS254TA	DIODE	
D51	MA4039MTA	DIODE	
D601-607	1SS254TA	DIODE	
D801, 802	1SS254TA	DIODE	
D851	1SR139-200TA	DIODE	
D891	1SS254TA	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks
		IC PROTECTOR(S)	
ICP1, 2	SRUN38T	IC PROTECTOR	(EB) ⚠
ICP11, 12	SRUN15	IC PROTECTOR	⚠
		VARIABLE RESISTOR(S)	
VR871	EVJCB0F02A14	V. R, HEADPHONES LEVEL	
		COIL(S)	
L201, 202	RLQZN3R3KL-D	COIL	[MB]
L801-804	RLQZN471KL-D	COIL	[MB]
L832	RLQZN4R7KL-D	COIL	
L871-873	RLQZN3R3KL-D	COIL	[MB]
L874	RLQZN4R7KL-D	COIL	
		TRANSFORMER(S)	
T1	RTP1K4E013	POWER TRANSFORMER	⚠ [MB]
		OSCILLATOR(S)	
X801	RSXA33M8J01T	OSCILLATOR	[MB]
		DISPLAY TUBE	
FL602	RSL0066-F	DISPLAY TUBE	[MB]
		FUSE(S)	
F1	XBA2C01TB0	FUSE 250V T100mA	⚠
		SWITCH(ES)	
S613	EVQQB005R	SW, PLAY	
S614	EVQQB005R	SW, SKIP(R)	
S615	EVQQB005R	SW, SEARCH(R)	
S616	EVQQB005R	SW, PROGRAM	
S617	EVQQB005R	SW, SISC LINK	
S618	EVQQB005R	SW, AUTO CUE	
S619	EVQQB005R	SW, STOP	
S620	EVQQB005R	SW, SKIP(F)	
S621	EVQQB005R	SW, SEARCH(F)	
S622	EVQQB005R	SW, RECALL	

Ref. No.	Part No.	Part Name & Description	Remarks
S623	EVQQB005R	SW, SIDE A/B	
S624	EVQQB005R	SW, RANDOM	
S625	EVQQB005R	SW, TIME FADE	
S626	EVQQB005R	SW, OPEN/CLOSE	
S627	EVQQB005R	SW, PAUSE	
S628	EVQQB005R	SW, REPEAT	
S629	EVQQB005R	SW, CLEAR	
S630	EVQQB005R	SW, TAPE LENGTH	
S631	EVQQB005R	SW, TIME MODE	
S632	EVQQB005R	SW, PEAK SEARCH	
S651	RSP2B010	SW, POWER	
		CONNECTOR(S) AND SOCKET(S)	
CN11	RJS1A6605	CONNECTOR(5P)	MB
CN12	RJT001H007	CONNECTOR(7P)	MB
CN401	RJT001H014	CONNECTOR(14P)	MB
CN411-414	RJU003K010M1	SOCKET(10P)	
CN431	RJT001H003	CONNECTOR(3P)	MB
CN611-614	RJT003K010M1	CONNECTOR(10P)	
CN891	RJS1A6607	CONNECTOR(7P)	MB
		JACK(S)	
JK201	RJJ33T01	SYNCHRO EDIT	
JK801	RJH3201N	LINE OUT	
JK871	QJA0455ZC	HEADPHONES	
		EARTH CONTACT(S)	
GND601, 602	SUSD144	EARTH CONTACT	
GND621-626	SMTD3	EARTH CONTACT	(S)
GND651	RMC0108	EARTH CONTACT	(S)
GND871	RMC0075	EARTH CONTACT	MB
		FLAT CABLE(S)	
FC1	RWJ1805100KQ	FLAT CABLE(5P)	MB
FC611	RWJ1804290KK	FLAT CABLE(4P)	MB
FC871	RWJ1807130KQ	FLAT CABLE(7P)	MB
		<SERVO P. C. B.>	
		INTEGRATED CIRCUIT(S)	
IC6501	482220973234	I. C, PHOTO DIODE S. P.	MB
IC6503	482220973235	I. C, RADIAL ERROR S. P.	MB
IC6504	482220972587	I. C, FOCUS/RADIAL DRIVE	MB
		TRANSISTOR(S)	
Q6502	532213044349	TRANSISTOR	MB
Q6507	532213042136	TRANSISTOR	MB

Ref. No.	Part No.	Part Name & Description	Remarks
		DIODE(S)	
D6505	482213081101	DIODE	MB
D6506	482213081101	DIODE	MB
		VARIABLE RESISTOR(S)	
VR3520	482210110685	V. R, LASER POWER ADJ.	MB
VR3569	482210020522	V. R, FOCUS OFFSET ADJ.	MB
		SWITCH	
S1001	482227612523	SW, TRAY	MB

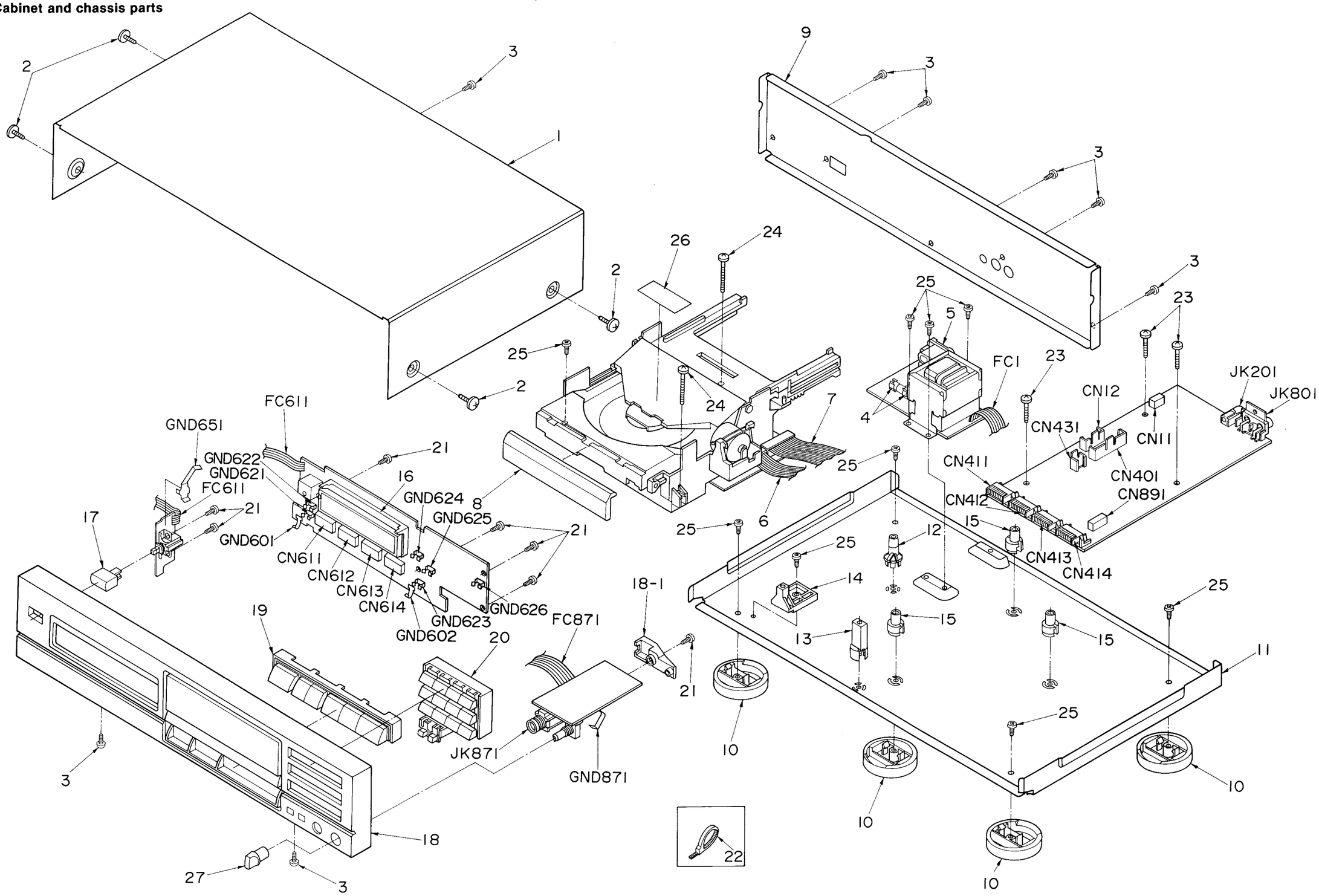
Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
* Remote Control Ass'y:
Supply period for three years from termination of production.
* [MB] Indicates in Remarks columns parts that are supplied by MBV.
* "(K)" mark parts are used for black type only.
* "(S)" mark parts are used for silver type only.
Parts other than "(K)" and "(S)" marked are used for all color types.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RKM0152-K	TOP CASE	(K) [MB]
1	RKM0152-S	TOP CASE	(S) [MB]
2	SNE2129-1	SCREW	(K)
2	SNE2129	SCREW	(S)
3	XTBS3+8JFZ1	SCREW	
4	EYF52BC	FUSE HOLDER	
5	SJS9236	AC INLET	⚠
6	REX0007	CONNECTOR ASS'Y(7P)	[MB]
7	REX0285	CONNECTOR ASS'Y(14P)	[MB]
8	RGK0325-K	TRAY ORNAMENT	(K) [MB]
8	RGK0325-S	TRAY ORNAMENT	(S) [MB]
9	RFKHPG200AE	REAR PANEL ASS'Y	(E, EG) [MB]
9	RFKHPG200AEB	REAR PANEL ASS'Y	(EB) [MB]
10	RKA0040B	FOOT	[MB]
11	RMK0077A	CHASSIS	[MB]
12	RMR0020	SPACER(A)	[MB]
13	RMR0021	SPACER(B)	[MB]
14	RMR0471	SPACER(C)	[MB]
15	RMR0377	P.C.B. SUPPORT	[MB]
16	RMR0264-2	VFD HOLDER	
17	RGU0030	POWER BUTTON	(K)
17	RGU0030-S	POWER BUTTON	(S)
18	RFKGPG200AEK	FRONT PANEL ASS'Y	(K) [MB]
18	RFKGPG200AES	FRONT PANEL ASS'Y	(S) [MB]
18-1	RMR0378	H.P. P.C.B. HOLDER	[MB]
19	RGU0467A-K2	MAIN BUTTON	(K)
19	RGU0467B-S1	MAIN BUTTON	(S) [MB]
20	RGU0468-K2	SUB KEY BUTTON	(K)
20	RGU0468-S1	SUB KEY BUTTON	(S) [MB]
21	XTBS26+8J	SCREW	
22	SHR328	FASTENER	
23	XTB3+20JFZ	SCREW	
24	XTB3+35JFZ	SCREW	
25	XTB3+8JFZ	SCREW	
26	RQLS0022	LASER CAUTION LABEL	[MB]
27	RGW0048	H.P. VOLUME KNOB	(K)
27	RGW0048-S	H.P. VOLUME KNOB	(S) [MB]
		LOADING UNIT PARTS	
101	482244450603	TRAY	[MB]
102	482232550176	GROMMET, CABLE	[MB]
103	482232550177	GROMMET, CABLE	[MB]
104	482246692251	PLATE	[MB]
106	482235810115	BELT, DRIVING	[MB]
107	482252232359	WHEEL, GEAR	[MB]
108	482253251518	RING, RUBBER	[MB]
109	482240261081	GUIDE	[MB]
111	482240261132	GUIDE	[MB]
112	482252890638	ROLLER	[MB]
113	482249251902	SPRING, COMPRES.	[MB]
114	482246661587	FOAM	[MB]
116	482240261107	LEVER	[MB]
117	482249263659	SPRING, BLADE	[MB]
118	482244460568	LID	[MB]
119	482249232883	SPRING, TENSION	[MB]
121	482252890639	ROLLER	[MB]
122	482246692257	PLATE	[MB]
123	482240261207	HOLDER	[MB]
124	482252040177	BALL	[MB]
126	482253080503	RING, PRESSURE	[MB]
127	482269130209	OPTICAL PICKUP UNIT	[MB]
128	482240261196	SUPPORT	[MB]
129	482249263746	SPRING, CLAMPING	[MB]
131	482236120998	MOTOR	[MB]
132	482240250244	BRACKET	[MB]
133	482249251935	SPRING, COMPRES.	[MB]
134	482246450715	CHASSIS	[MB]
		PACKING MATERIAL	
P1	RPG0771	PACKING CASE	(K) [MB]
P1	RPG0772	PACKING CASE	(S) [MB]
P2	RPN0429	CUSHION	[MB]
P3	RMR0024	LOCK SHAFT	[MB]
P4	RQCA0059	LOCK CAUTION SHEET	[MB]
P5	XZB60X60A01	PROTECTION BAG(UNIT)	
P6	XZB23X35C03	POLYETHYLENE BAG(F.B.)	
P7	XZB26X17C03	POLYETHYLENE BAG(CORD)	
		ACCESSORIES	
A1	RQF0858	INSTRUCTION MANUAL ASS'Y	(E) (K) [MB]
A1	RQF0859	INSTRUCTION MANUAL ASS'Y	(EB) (K) [MB]
A1	RQF0860	INSTRUCTION MANUAL ASS'Y	(EG) (K) [MB]
A1	RQF0861	INSTRUCTION MANUAL ASS'Y	(E) (S) [MB]
A1	RQF0862	INSTRUCTION MANUAL ASS'Y	(EB) (S) [MB]

Ref. No.	Part No.	Part Name & Description	Remarks
A1	RQF0863	INSTRUCTION MANUAL ASS'Y	(EG) (S) MB
A1-1	RQT0767-B	INSTRUCTION MANUAL	(EB) MB
A1-1	RQT0768-D	INSTRUCTION MANUAL	(EG) MB
A1-1	RFKSPG200AE	INSTRUCTION MANUAL	(E) MB
A1-2	RQA0013	GUARANTEE CARD	
A1-3	RQCB0169	SERVICE SHOP LIST	
A2	SJA187	AC POWER SUPPLY CORD	(E, EG) ⚠
A2	SJA193	AC POWER SUPPLY CORD	(EB) ⚠
A3	SJP2249-3	STEREO CONNECTION CABLE	
A4	EUR64798	REMOTE CONTROL TRANSMITTER	(K) MB
A4	EUR64799	REMOTE CONTROL TRANSMITTER	(S) MB
A5	UR64EC804	BATTERY COVER	(K)
A5	UR64EC804A	BATTERY COVER	(S)
A6	UM-4NE/2S	BATTERY	

■ EXPLODED VIEWS

• **Cabinet and chassis parts**



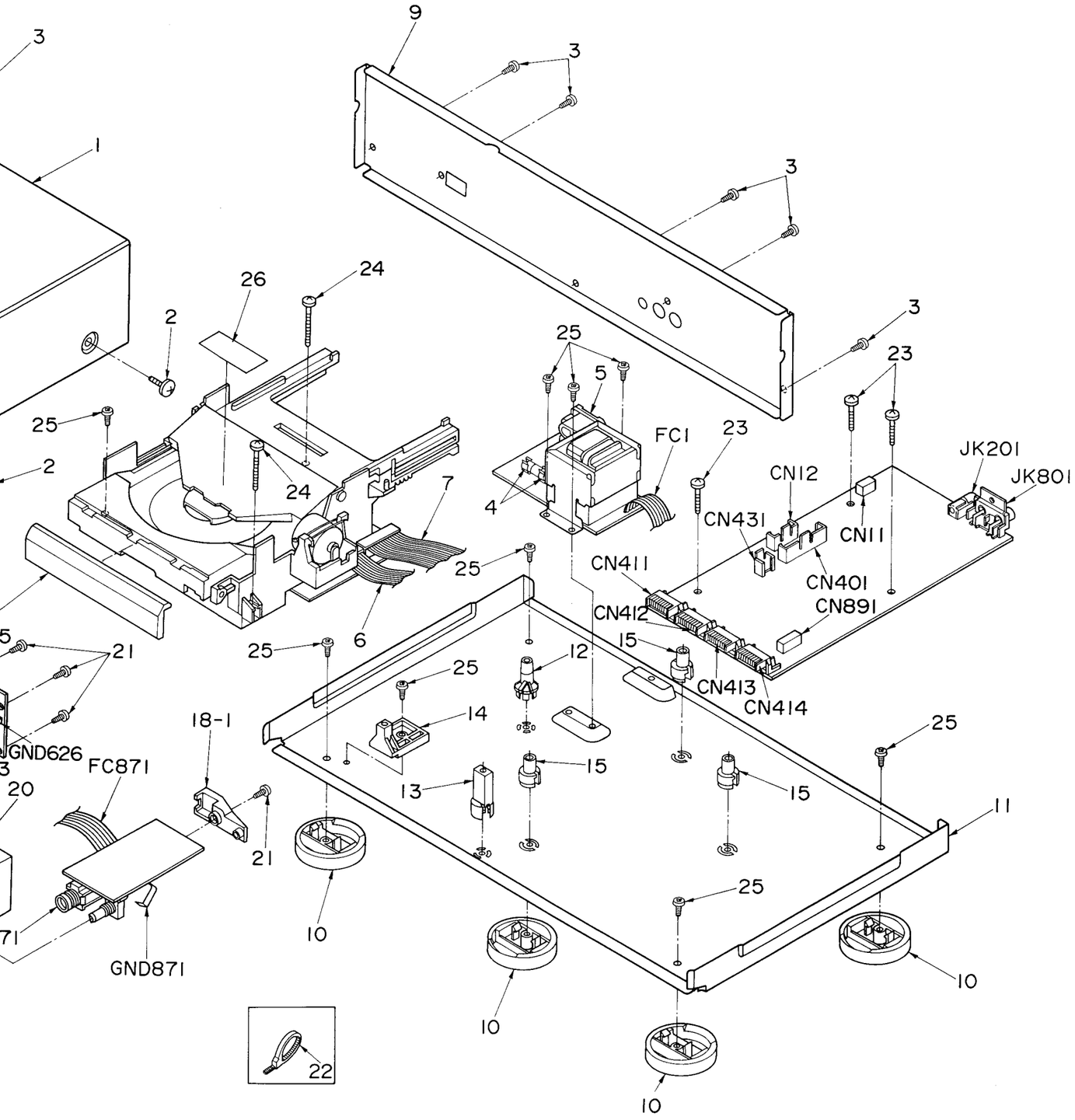
• **Loading unit**

• **Grounding for**

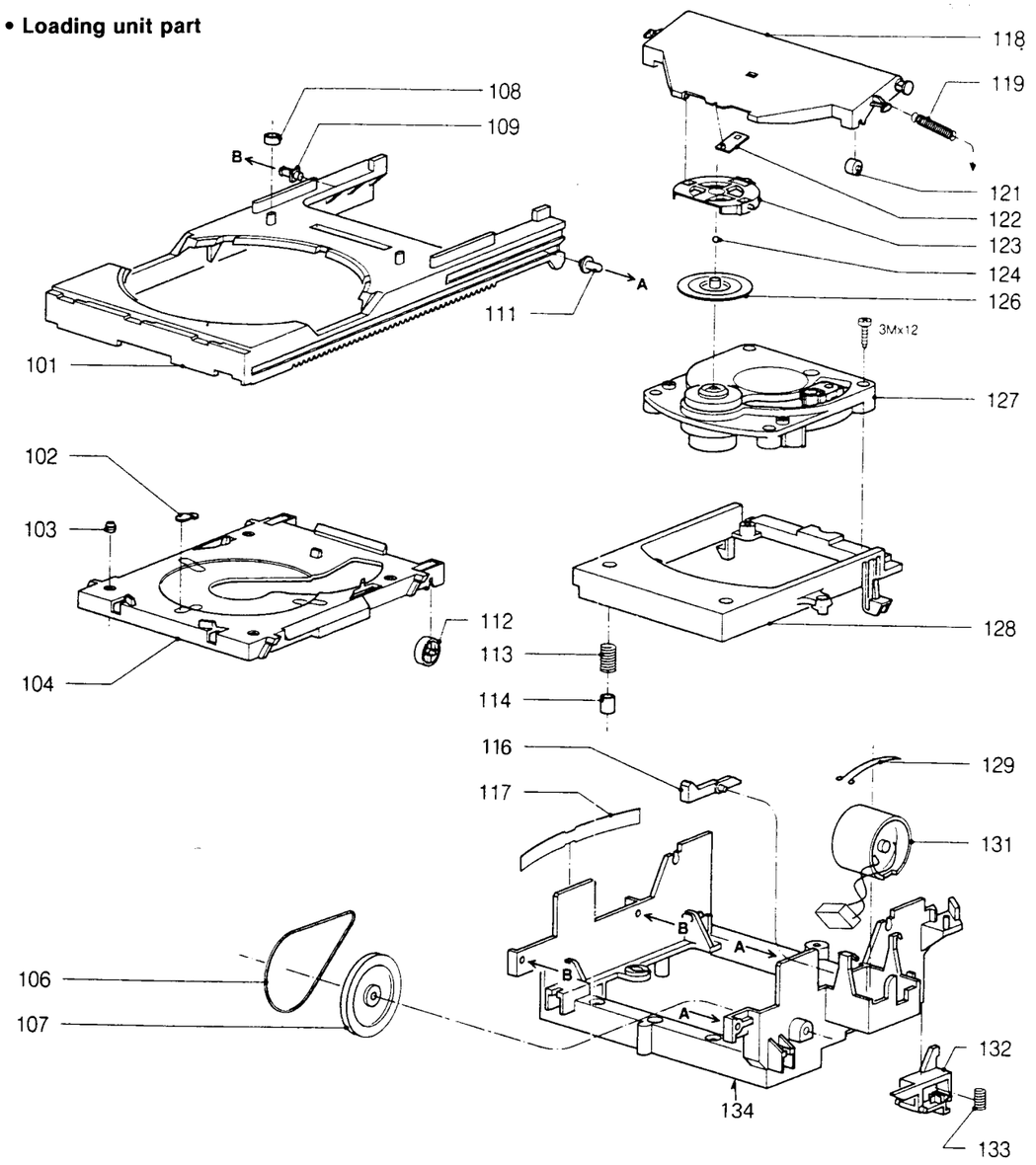
1. Human body gro
   Use the anti-stat
   electricity from y
2. Work table groun
   Put a conductive
   where the optica

Caution:

The static electricity
through the wrist st
touch the optical pi



• **Loading unit part**

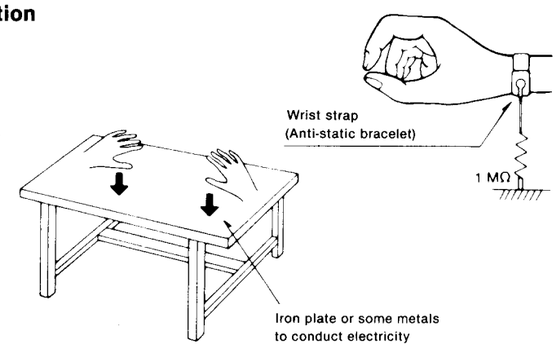


• Grounding for electrostatic breakdown prevention

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the optical pickup.



■ RESISTORS & CAPACITORS

Notes : • Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads(F)
• Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)
*[MB] Indicates in Remarks columns parts that are supplied by MBV.

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R11	ERDS2TJ182	1/4W 1.8K
R12, 13	ERDS2TJ102	1/4W 1K
R14	ERDS2TJ103	1/4W 10K
R15	ERDS2TJ822	1/4W 8.2K
R16, 17	ERDS2TJ103	1/4W 10K
R20	ERDS2TJ102	1/4W 1K
R23	ERDS2TJ222	1/4W 2.2K
R25	ERDS2TJ222	1/4W 2.2K
R51	ERDS2TJ331	1/4W 330
R52	ERDS2TJ272T	1/4W 2.7K
R53, 54	ERDS2TJ472	1/4W 4.7K
R201	ERDS2TJ100	1/4W 10
R202	ERDS2TJ102	1/4W 1K
R203	ERDS2TJ273	1/4W 27K
R301	ERDS2TJ182	1/4W 1.8K
R302	ERDS2TJ823T	1/4W 82K
R303	ERDS2TJ104	1/4W 100K
R304	ERDS2TJ471	1/4W 470
R315	ERDS2TJ104	1/4W 100K
R351	ERDS2TJ103	1/4W 10K
R352	ERDS2TJ104	1/4W 100K
R353	ERDS2TJ123	1/4W 12K
R354	ERDS2TJ104	1/4W 100K
R355, 356	ERDS2TJ333	1/4W 33K
R357	ERD25FJ6R8	1/4W 6.8 ⚠
R401	ERDS2TJ104	1/4W 100K
R411, 412	ERDS2TJ472	1/4W 4.7K
R431, 432	ERDS2TJ223	1/4W 22K
R433	ERDS2TJ104	1/4W 100K
R434	ERDS2TJ224T	1/4W 220K
R435	ERDS2TJ104	1/4W 100K
R436	ERDS2TJ224T	1/4W 220K
R437, 438	ERDS2TJ223	1/4W 22K
R601	ERDS2TJ120T	1/4W 12
R801-804	ERDS2TJ330	1/4W 33
R805-808	ERDS2TJ433	1/4W 43K
R809-812	ERDS2TJ563	1/4W 56K
R815, 816	ERDS2TJ472	1/4W 4.7K
R817, 818	ERDS2TJ221	1/4W 220
R819, 820	ERDS2TJ511	1/4W 510
R821, 822	ERDS2TJ473	1/4W 47K
R823, 824	ERDS2TJ331	1/4W 330
R825, 826	ERDS2TJ102	1/4W 1K
R831, 832	ERDS2TJ470	1/4W 47
R833	ERDS2TJ472	1/4W 4.7K
R834	ERDS2TJ102	1/4W 1K

Ref. No.	Part No.	Values & Remarks
R837, 838	ERDS2TJ100	1/4W 10
R840	ERDS2TJ101	1/4W 100
R851	ERDS2TJ471	1/4W 470
R854	ERDS2TJ472	1/4W 4.7K
R857, 858	ERDS2TJ222	1/4W 2.2K
R859, 860	ERDS2TJ105T	1/4W 1M
R861	ERDS2TJ102	1/4W 1K
R871, 872	ERDS2TJ473	1/4W 47K
R873, 874	ERDS2TJ123	1/4W 12K
R875, 876	ERDS2TJ104	1/4W 100K
R885, 886	ERDS2TJ222	1/4W 2.2K
R887, 888	ERDS2TJ680T	1/4W 68
R889, 890	ERDS2TJ472	1/4W 4.7K
R891, 892	ERDS2TJ102	1/4W 1K
R893, 894	ERDS2TJ472	1/4W 4.7K
R895, 896	ERDS2TJ471	1/4W 470
R897	ERDS2TJ103	1/4W 10K
R898	ERDS2TJ822	1/4W 8.2K
		CAPACITORS
C1, 2	ECFTD103KXL	50V 0.01U ⚠
C10	ECFR1E104ZF5	25V 0.1U
C11-13	ECEA1CU102	16V 1000U
C14, 15	ECEA0JK470	6.3V 47U
C16	ECEA1EU101	25V 100U
C17, 18	ECEA1HU101	50V 100U
C19	ECEA1CK101	16V 100U
C51	ECEA0JK220B	6.3V 22U
C201, 202	ECBT1C103NS5	16V 0.01U
C301	ECBT1C103NS5	16V 0.01U
C302	ECBT1H270J5	50V 27P
C303, 304	ECFR1E104ZF5	25V 0.1U
C305	ECBT1H102KB5	50V 1000P
C306	ECFR1H223KB	50V 0.022U
C307	ECQV1H474JZ3	50V 0.47U
C308	ECBT1H102KB5	50V 1000P
C309	ECFR1E104ZF5	25V 0.1U
C312	ECBT1C103NS5	16V 0.01U
C351	ECBT1H102KB5	50V 1000P
C401	ECFR1E104ZF5	25V 0.1U
C402	ECEA0JK470	6.3V 47U
C404	ECFR1E104ZF5	25V 0.1U
C601, 602	ECBT1H102KB5	50V 1000P
C801-804	ECQV1H683JZ3	50V 0.68U
C805-808	ECBT1H121KB5	50V 120P
C811, 812	ECQV1H683JZ3	50V 0.68U
C815, 816	ECBT1H102KB5	50V 1000P
C817	ECFR1E104ZF5	25V 0.1U

Ref. No.	Part No.	Values & Remarks
C831	ECFR1E104ZF5	25V 0.1U
C832	ECEA0JU331B	6.3V 330U
C833	ECFR1E104ZF5	25V 0.1U
C834	ECEA0JU331B	6.3V 330U
C835-837	ECFR1E104ZF5	25V 0.1U
C838	ECBT1H5R6K5	50V 5.6P
C840	ECBT1H5R6K5	50V 5.6P
C841	ECEA0JK101	6.3V 100U
C842	ECFR1E104ZF5	25V 0.1U
C845	ECFR1E104ZF5	25V 0.1U
C851	ECEA0JU471	6.3V 470U
C852	ECEA1CK100B	16V 10U
C871, 872	ECEA1EKN3R3B	25V 3.3U
C873, 874	ECQM1H103JZ	50V 0.01U
C875-879	ECBT1C103NS5	16V 0.01U
C881, 882	ECEA1AN101XB	10V 100U
C891	ECEA1CK101	16V 100U
C892	ECBT1C103NS5	16V 0.01U
C893, 894	ECEA1CKN220B	16V 22U
C895	ECBT1C103NS5	16V 0.01U
		<SERVO P.C.B.>
		RESISTORS
R3501	482211652426	1/2W 4.7K [MB]
R3502	482211190214	1/8W 100K [MB]
R3503	482211130499	1/3W 4.7 [MB]
R3504	482211130499	1/3W 4.7 [MB]
R3505	482211190253	1/8W 12K [MB]
R3506	532211190091	1/8W 100 [MB]
R3507	482211190248	1/8W 2.2K [MB]
R3508	482211190512	1/8W 24K [MB]
R3509	482211190572	1/8W 5.6K [MB]
R3510	482211190249	1/8W 10K [MB]
R3521	482211190178	1/8W 220 [MB]
R3522	482211130515	1/3W 18 [MB]
R3523	482211130511	1/3W 12 [MB]
R3524	532211190091	1/8W 100 [MB]
R3530	482211190543	1/8W 47K [MB]
R3531	482211190344	1/8W 15K [MB]
R3533	532211190268	1/8W 5.1K [MB]
R3534	482211190197	1/8W 220K [MB]
R3535	482211653081	3/5W 12K [MB]
R3540	482211652858	3/5W 4.7 [MB]
R3541	482211190544	1/8W 6.8K [MB]
R3542	482211190124	1/8W 82 [MB]
R3543	482211190544	1/8W 6.8K [MB]
R3544	482211130483	1/3W 1 [MB]
R3545	482211130483	1/3W 1 [MB]

Ref. No.	Part No.	Values & Remarks
R3550	482211190248	1/8W 2.2K [MB]
R3551	482211690417	1/8W 150K [MB]
R3552	482211190171	1/8W 820 [MB]
R3554	482211690421	1/8W 2K [MB]
R3555	482211190251	1/8W 22K [MB]
R3560	482211191494	1/8W 11K [MB]
R3561	482211690417	1/8W 150K [MB]
R3562	482211652845	3/5W 120K [MB]
R3563	482211190573	1/8W 56K [MB]
R3564	482211191495	1/8W 160K [MB]
R3565	482211652354	1/2W 27 [MB]
R3566	482211190186	1/8W 22 [MB]
R3567	482211652478	1/2W 82K [MB]
R3568	482211190161	1/8W 470K [MB]
		CHIP JUMPER(S)
R3801	482211190163	JUMPER [MB]
R3802	482211190163	JUMPER [MB]
		CAPACITORS
C2501	482212233147	50V 0.022U [MB]
C2502	482212440433	25V 47U [MB]
C2503	482212233147	50V 0.022U [MB]
C2504	482212231727	63V 470P [MB]
C2505	482212440433	25V 47U [MB]
C2506	482212233104	63V 0.1U [MB]
C2507	482212231644	63V 2200P [MB]
C2508	532212142491	100V 0.047U [MB]
C2509	482212231772	50V 47P [MB]
C2510	482212232442	50V 0.01U [MB]
C2511	482212231746	50V 1000P [MB]
C2513	482212142245	63V 0.22U [MB]
C2514	482212151252	100V 0.47U [MB]
C2515	482212231746	50V 1000P [MB]
C2520	482212231965	63V 220P [MB]
C2521	482212422027	2.5V 47U [MB]
C2530	482212151321	63V 8200P [MB]
C2531	482212151321	63V 8200P [MB]
C2532	482212440272	16V 33U [MB]
C2534	532212142661	63V 0.33U [MB]
C2535	532212231848	63V 0.033U [MB]
C2536	532212231848	63V 0.033U [MB]
C2537	482212142245	63V 0.22U [MB]
C2538	482212142245	63V 0.22U [MB]
C2540	482212441583	50V 0.68U [MB]
C2541	482212233147	50V 0.022U [MB]
C2542	482212233147	50V 0.022U [MB]
C2543	482212440196	16V 220U [MB]
C2544	482212440196	16V 220U [MB]
C2545	482212233104	63V 0.1U [MB]

Ref. No.	Part No.	Values & Remarks
C2546	482212233104	63V 0.1U [MB]
C2552	482212143526	47UF 100N [MB]
C2560	482212231784	50V 4700P [MB]
C2561	482212151252	100V 0.47U [MB]
C2562	532212142661	63V 0.33U [MB]
C2563	482212233104	63V 0.1U [MB]
C2625	482212231765	50V 100P [MB]
C2701	482212233147	50V 0.022U [MB]

■ PACKING

(CUSHION Ⓐ, Ⓑ: Part No. RPN0429)

■ TROUBLESHO

Play Operation

Power on

(with no disc loa

Disc loading

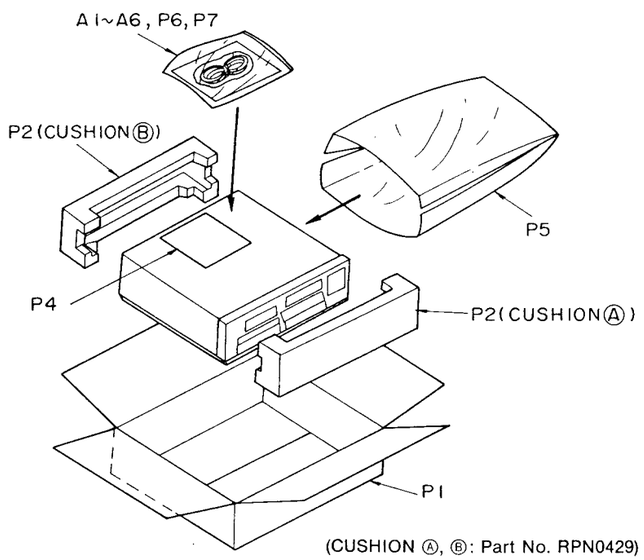
TOC reading

ls (F)			
o.	Values & Remarks		
ZF5	25V	0.1U	
1B	6.3V	330U	
ZF5	25V	0.1U	
1B	6.3V	330U	
ZF5	25V	0.1U	
K5	50V	5.6P	
K5	50V	5.6P	
1	6.3V	100U	
ZF5	25V	0.1U	
ZF5	25V	0.1U	
1	6.3V	470U	
0B	16V	10U	
R3B	25V	3.3U	
JZ	50V	0.01U	
NS5	16V	0.01U	
HXB	10V	100U	
1	16V	100U	
NS5	16V	0.01U	
20B	16V	22U	
NS5	16V	0.01U	
	<SERVO P.C.B.>		
	RESISTORS		
126	1/2W	4.7K	MB
214	1/8W	100K	MB
199	1/3W	4.7	MB
199	1/3W	4.7	MB
253	1/8W	12K	MB
191	1/8W	100	MB
148	1/8W	2.2K	MB
112	1/8W	24K	MB
172	1/8W	5.6K	MB
149	1/8W	10K	MB
178	1/8W	220	MB
115	1/3W	18	MB
111	1/3W	12	MB
191	1/8W	100	MB
143	1/8W	47K	MB
144	1/8W	15K	MB
168	1/8W	5.1K	MB
197	1/8W	220K	MB
181	3/5W	12K	MB
158	3/5W	4.7	MB
144	1/8W	6.8K	MB
124	1/8W	82	MB
144	1/8W	6.8K	MB
183	1/3W	1	MB
183	1/3W	1	MB

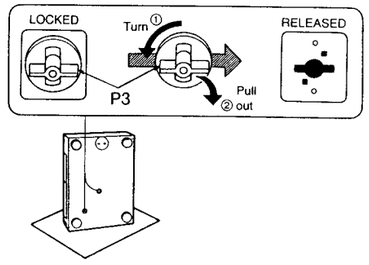
Ref. No.	Part No.	Values & Remarks	
R3550	482211190248	1/8W 2.2K	MB
R3551	482211690417	1/8W 150K	MB
R3552	482211190171	1/8W 820	MB
R3554	482211690421	1/8W 2K	MB
R3555	482211190251	1/8W 22K	MB
R3560	482211191494	1/8W 11K	MB
R3561	482211690417	1/8W 150K	MB
R3562	482211652845	3/5W 120K	MB
R3563	482211190573	1/8W 56K	MB
R3564	482211191495	1/8W 160K	MB
R3565	482211652354	1/2W 27	MB
R3566	482211190186	1/8W 22	MB
R3567	482211652478	1/2W 82K	MB
R3568	482211190161	1/8W 470K	MB
		CHIP JUMPER(S)	
R3801	482211190163	JUMPER	MB
R3802	482211190163	JUMPER	MB
		CAPACITORS	
C2501	482212233147	50V 0.022U	MB
C2502	482212440433	25V 47U	MB
C2503	482212233147	50V 0.022U	MB
C2504	482212231727	63V 470P	MB
C2505	482212440433	25V 47U	MB
C2506	482212233104	63V 0.1U	MB
C2507	482212231644	63V 2200P	MB
C2508	532212142491	100V 0.047U	MB
C2509	482212231772	50V 47P	MB
C2510	482212232442	50V 0.01U	MB
C2511	482212231746	50V 1000P	MB
C2513	482212142245	63V 0.22U	MB
C2514	482212151252	100V 0.47U	MB
C2515	482212231746	50V 1000P	MB
C2520	482212231965	63V 220P	MB
C2521	482212422027	2.5V 47U	MB
C2530	482212151321	63V 8200P	MB
C2531	482212151321	63V 8200P	MB
C2532	482212440272	16V 33U	MB
C2534	532212142661	63V 0.33U	MB
C2535	532212231848	63V 0.033U	MB
C2536	532212231848	63V 0.033U	MB
C2537	482212142245	63V 0.22U	MB
C2538	482212142245	63V 0.22U	MB
C2540	482212441583	50V 0.68U	MB
C2541	482212233147	50V 0.022U	MB
C2542	482212233147	50V 0.022U	MB
C2543	482212440196	16V 220U	MB
C2544	482212440196	16V 220U	MB
C2545	482212233104	63V 0.1U	MB

Ref. No.	Part No.	Values & Remarks
C2546	482212233104	63V 0.1U MB
C2552	482212143526	47UF 100N MB
C2560	482212231784	50V 4700P MB
C2561	482212151252	100V 0.47U MB
C2562	532212142661	63V 0.33U MB
C2563	482212233104	63V 0.1U MB
C2625	482212231765	50V 100P MB
C2701	482212233147	50V 0.022U MB

■ PACKING



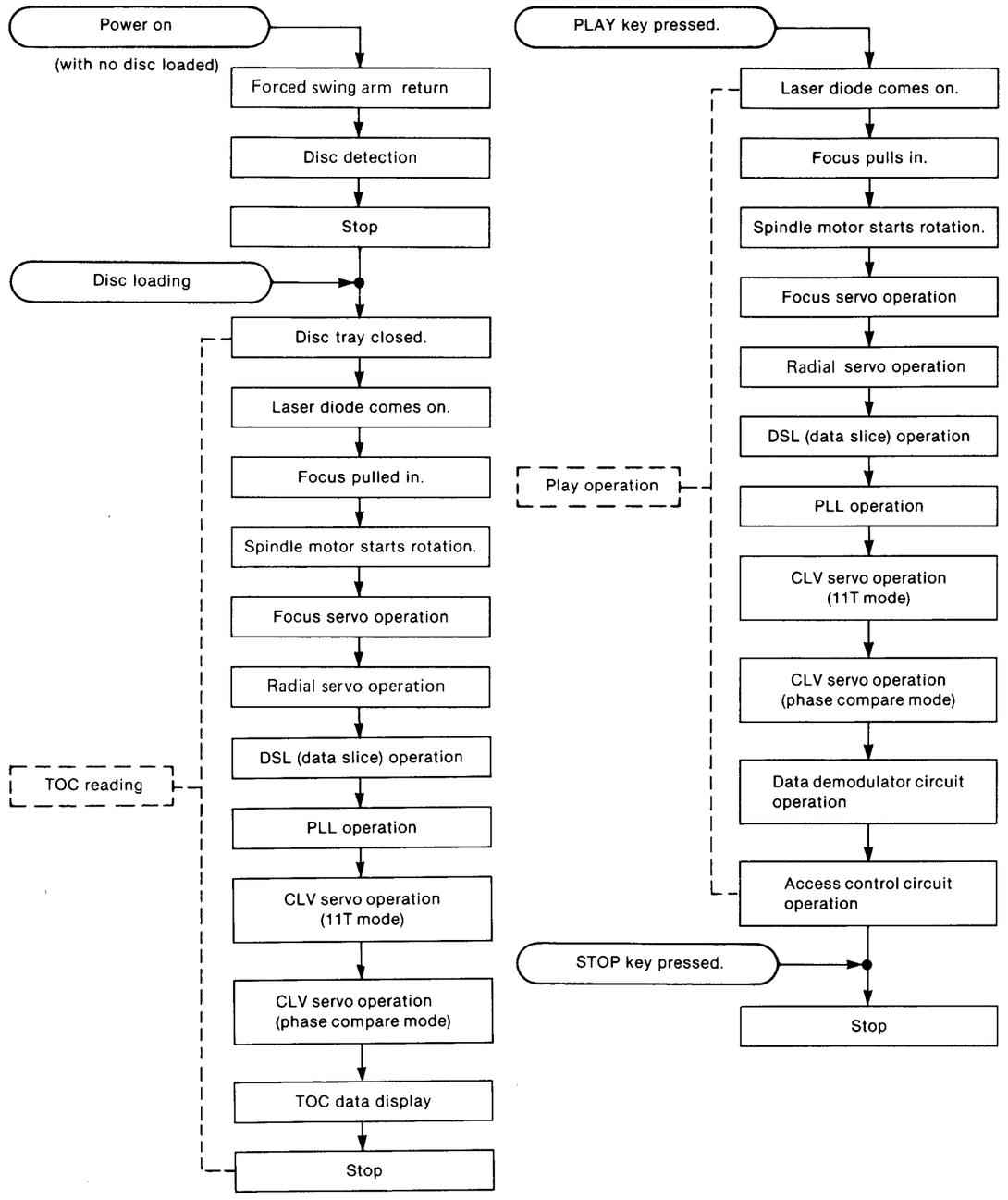
(CUSHION Ⓐ, Ⓑ: Part No. RPN0429)



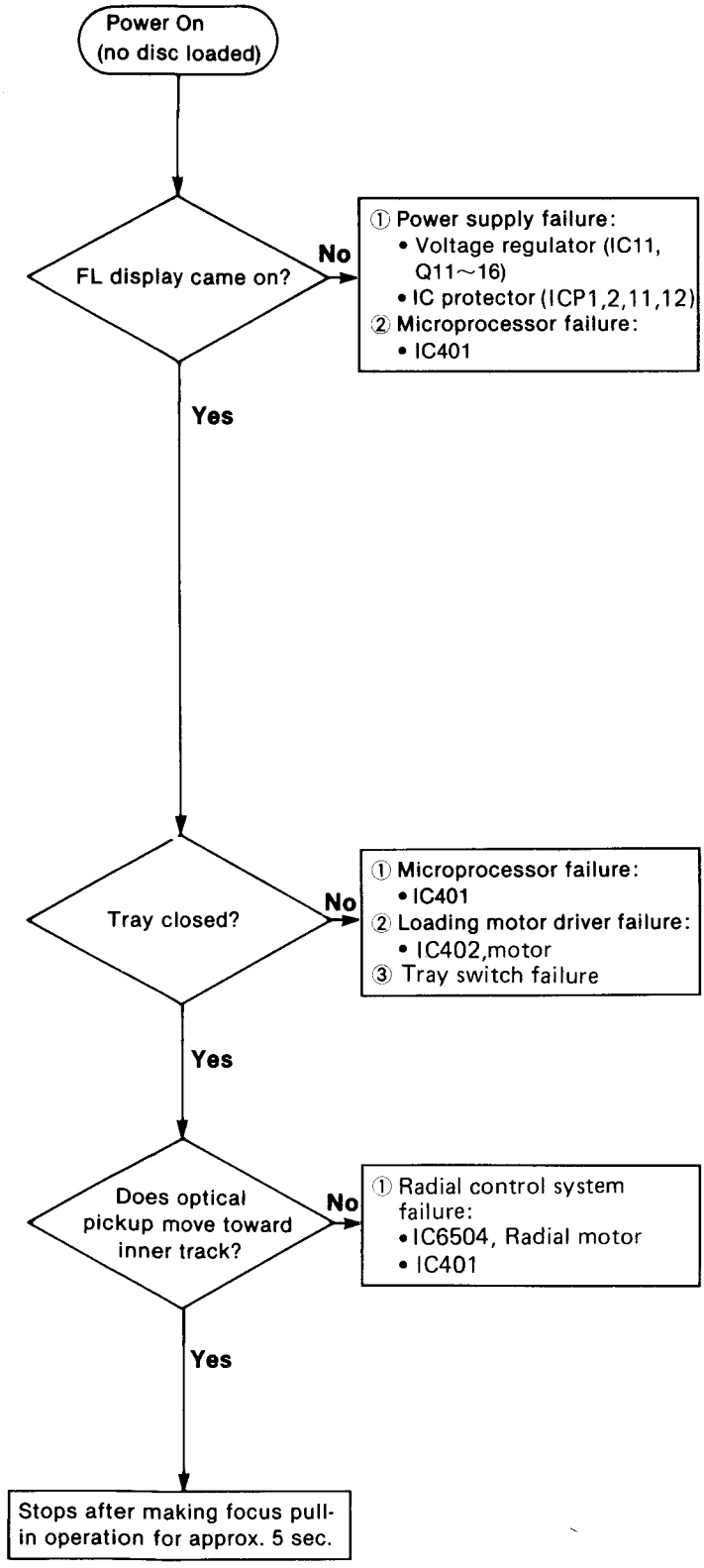
■ TROUBLESHOOTING GUIDE

SL-PG200A Operation Sequence Check Sheet

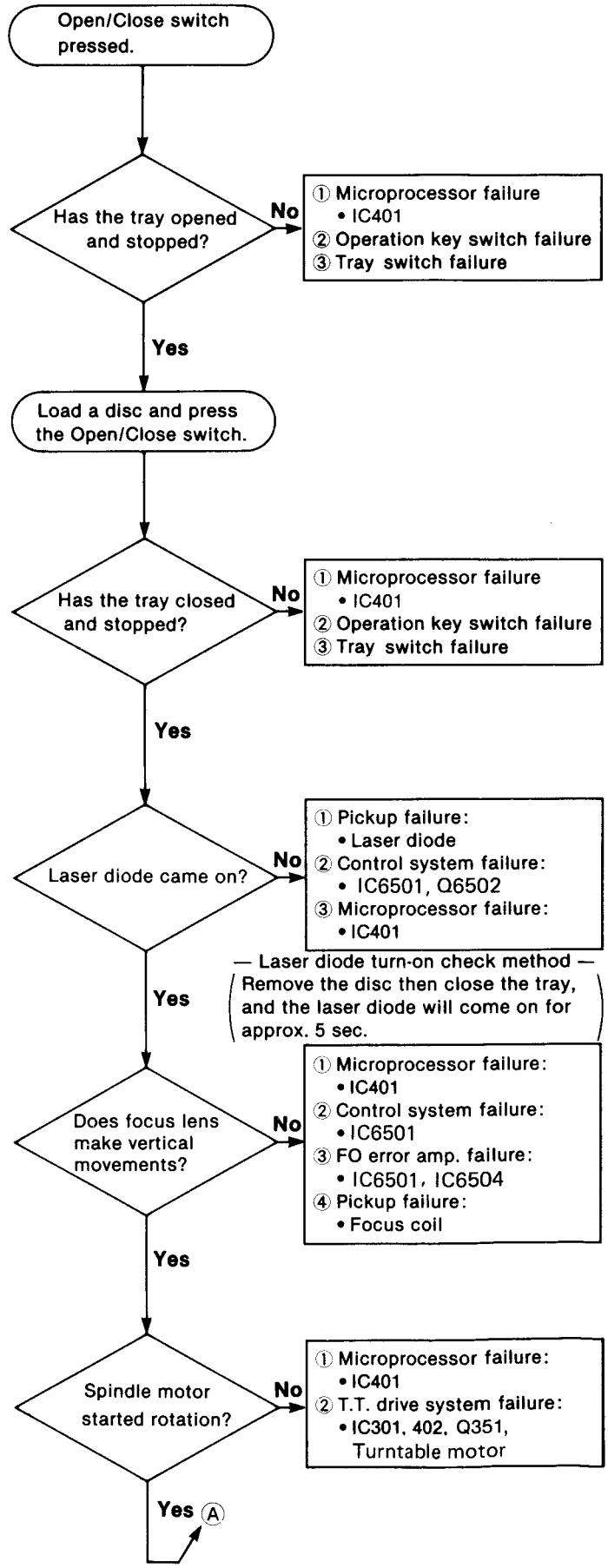
Play Operation Sequence

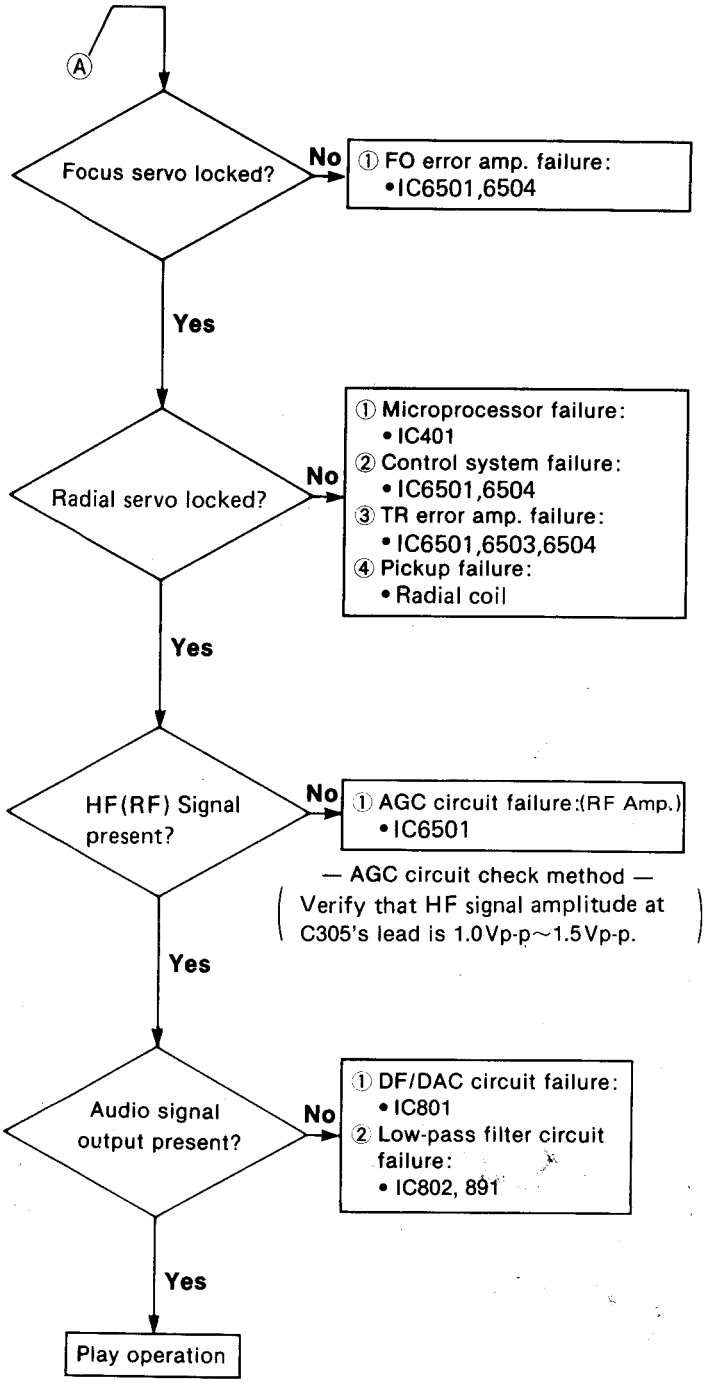


(Operation Sequence Just After Power On)



(TOC Read Operation-PLAY Operation)





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